

Defense Information Infrastructure (DII)
Common Operating Environment (COE)

User's Manual (UM)
for the
METCAST Client Segment (MCCLNT)
Release 1.7 Series

20 December 2002

Prepared for:
Space and Naval Warfare Systems Command
Environmental Systems Program Office
(SPAWAR PMW-155)

Prepared by:
Fleet Numerical Meteorology and Oceanography Center
Monterey, CA

and

Computer Sciences Corporation
Monterey, CA

Table of Contents

1	SCOPE	1-1
1.1	Identification	1-1
1.2	System Overview	1-1
1.3	What's New?	1-1
2	REFERENCED DOCUMENTS	2-9
2.1	Government Documents	2-9
2.2	Non-Government Documents	2-9
3	SOFTWARE SUMMARY	3-11
3.1	Software Description	3-11
3.2	Software Inventory.....	3-11
3.3	Software Environment	3-11
3.4	Software Organization and Operation Overview.....	3-11
3.5	Modes of Operation	3-12
3.6	Security and Privacy	3-12
3.7	Assistance and Problem Reporting	3-12
3.7.1	How to Report Problems with METCAST-JMV:	3-12
4	ACCESS TO THE SOFTWARE.....	4-15
4.1	Software Setup	4-15
4.1.1	Familiarization	4-17
4.1.2	Access Control	4-22
4.1.3	Installation and Configuration	4-23
4.2	Initiating a Session	4-23
4.3	Stopping and Suspending Work.....	4-23
4.4	Running the Retriever Service as a Windows NT Service (Windows NT Platform only)	4-23
4.4.1	Installing the Retriever Service as an NT Service	4-23
4.4.2	Uninstalling the Retriever Service as an NT Service.....	4-27
4.4.3	Monitoring a Retriever Service From a Remote Computer.....	4-27
4.5	Creating a Remote Link	4-28
5	USING METCAST CLIENT.....	5-32
5.1	The Basics	5-32
5.2	Server Setup (the Options Menu)	5-36
5.3	Defining, Selecting, and Managing Areas	5-40
5.3.1	Creating an Area	5-40
5.3.2	Selecting an Area	5-52
5.3.3	Deleting an Area	5-52
5.3.4	Renaming an Area.....	5-53
5.3.5	Duplicating an Area	5-54
5.3.6	Cleaning an Area.....	5-54
5.4	Selecting Products for Retrieval	5-55
5.5	Setting Up Retrievals	5-62
5.6	Setting Up Lists.....	5-64
5.6.1	Selecting Bulletins for a Bulletin List.....	5-66
5.6.2	Selecting Stations and Products for a Station List.....	5-68
5.6.3	Selecting a Global List.....	5-71

5.6.4	Selecting a Remote List	5-72
5.7	Scheduling an Area or List	5-74
5.8	Displaying the Status of a Retrieval.....	5-75
5.8.1	Using the Retriever Monitor	5-75
5.8.2	Using the Area Status Display	5-78
5.9	Displaying Products	5-79
5.10	Channels.....	5-81
5.10.1	Configuring Channels	5-81
5.10.2	Retrieving data via a Channel	5-84
5.10.3	Publishing data via a Channel.....	5-86
5.11	METCAST-to-METCAST Data Transfers (Sun Platform Only).....	5-87
6	NOTES.....	6-90
6.1	Glossary of Abbreviations	6-90
6.2	Known Problems and Workarounds	6-91
7	DOCUMENTATION IMPROVEMENT AND FEEDBACK	7-94
APPENDIX A	SOLARIS NOTES	A-1
A.1	Summary	A-1
A.2	Installation notes	A-1
A.3	Starting METCAST Client	A-1
A.4	Miscellaneous	A-5
A.5	REGIONAL CENTER NOTES.....	A-5
A.5.1	Regional Center Operational Scripts	A-5
A.5.2	Resolving Data Download Problems	A-6
A.5.3	Recovering a Locked Up Terminal	A-7
APPENDIX B	MAILCAP FILE EDITOR	B-1
B.1	What is the mailcap file?.....	B-1
B.2	Editing the mailcap file	B-1
B.2.1	Modifying a mailcap Entry	B-2
B.2.2	Inserting a new mailcap entry	B-4
B.2.3	Additional Mailcap Editor Dialog features.....	B-4
APPENDIX C	JOINT METOC VIEWER (JMV) IMAGE FILE FORMAT	C-1
C.1	Description.....	C-1
C.2	Mandatory and Optional Information	C-1
C.3	Notes	C-4
C.4	METOC TIFF (MIFF) Private Tags	C-5

List of Figures

Figure 1. User Name and Password Dialog	4-15
Figure 2. Initial Server Configuration Dialog.....	4-15
Figure 3. Metcast User Contact Information Dialog	4-16
Figure 4. Metcast Properties Dialog.....	4-17
Figure 5. Features of the METCAST Requestor Screen.....	4-18
Figure 6. Two-button Mouse	4-20
Figure 7. Radio Buttons.....	4-20
Figure 8. Check Boxes.....	4-21
Figure 9. Typical Dialog Box	4-21
Figure 10. Windows NT System Properties Dialog box.....	4-24
Figure 11. Windows NT Services List.....	4-26
Figure 12. Keep Service Active Menu option	4-26
Figure 13. Remote Retriever Monitor operating system selection.....	4-28
Figure 14. Remote Retriever Monitor IP address input.	4-28
Figure 15. Folder Sharing Options	4-29
Figure 16. Share Permissions Dialog.....	4-30
Figure 17. Map Network Drive Dialog.....	4-31
Figure 18. Bulletin List Options Dialog	5-34
Figure 19. Text Display of Bulletin	5-35
Figure 20. Metcast Properties dialog.....	5-36
Figure 21. Network Servers Dialog	5-37
Figure 22. Source Configuration Dialog With Typical Entries	5-37
Figure 23. Request Setup Dialog.....	5-39
Figure 24. The Choose Area Type Dialog	5-41
Figure 25. North Polar Area Definition Map.....	5-41
Figure 26. Preview Area Map.....	5-42
Figure 27. Name An Area Dialog	5-43
Figure 28. South Polar Area Definition Map.....	5-44
Figure 29. Satellite Areas Selection Map	5-45
Figure 30. Mercator Projection Area Definition Map.....	5-47
Figure 31. Special Areas Selection Map.....	5-48
Figure 32. Remote Area Selection Dialog	5-50
Figure 33. Select Full Path Dialog, showing available drive paths.	5-50
Figure 34. Remote Area Selection Dialog Showing Available Areas.	5-51
Figure 35. Metcast Requestor, with one Remote Area Icon.	5-52
Figure 36. Area Icon With Context Menu	5-52
Figure 37. Delete Area Confirmation Dialog	5-53
Figure 38. JMV Change Area Dialog	5-54
Figure 39. Duplicate Area Dialog.....	5-54
Figure 40. Clean Area Dialog.....	5-55
Figure 41. Product Selection Dialog.....	5-56
Figure 42. Product Selection Dialog - Open.....	5-57
Figure 43. Set Default Taus Dialog	5-58
Figure 44. Product Selection Dialog Showing Default Taus	5-59
Figure 45. Product Selection Dialog With Default Taus Selected.....	5-60
Figure 46. Selected Products Dialog.....	5-61
Figure 47. Area Request Setup Dialog	5-62
Figure 48. The Create New List Dialog.....	5-66
Figure 49. Edit Bulletin List Dialog	5-68
Figure 50. Edit Station List Dialog.....	5-69
Figure 51. Configure List Request Dialog.....	5-70
Figure 52. Global List Edit dialog	5-71
Figure 53. Select Remote List dialog.....	5-72
Figure 54. Select Remote List dialog showing Path to Remote Data directory	5-73
Figure 55. Metcast Requestor showing two Remote Lists.....	5-74
Figure 56. Retriever Monitor	5-75

Figure 57. Retriever Monitor Showing Details for a Retrieval Session.....	5-76
Figure 58. Retriever Preferences Dialog.....	5-77
Figure 59. Request Status Display	5-79
Figure 60. Configure Viewers Dialog.....	5-80
Figure 61. Edit Viewer Dialog.....	5-80
Figure 62. Channels Dialog.	5-81
Figure 63. Channels Dialog with Server Selected.	5-82
Figure 64. Channels Metcast Servers dialog.....	5-82
Figure 65. Channels Server Configuration dialog.	5-83
Figure 66. Channels Dialog with Channel selected.	5-85
Figure 67. Channels Retrieval Options dialog.....	5-86
Figure 68. Channels Publish dialog.	5-87
Figure 69. Channels Upload Successful dialog.	5-87
Figure 70. User name and Password dialog.....	A-2
Figure 71. Server configuration dialog.	A-2
Figure 72. METCAST Data Browser window	A-3
Figure 73. METCAST Requestor Window.	A-3
Figure 74. Retriever Service Window.	A-4
Figure 75. Retriever Monitor Window	A-4
Figure 76. Kill Retriever Service Confirmation dialog.....	A-5
Figure 77. Nonfunctional dialog.....	A-5
Figure 78. Mailcap Editor dialog	B-2
Figure 79. Edit Mailcap Entry dialog.	B-3
Figure 80. Mailcap Editor Menu buttons.....	B-4

1 SCOPE

1.1 Identification

This is the User's Manual for the METCAST Client (MCCLNT) Segment of the METCAST data distribution software, Release 1.7 Series, developed by Fleet Numerical Meteorology and Oceanography Center (FNMOC), Monterey, CA. The Metcast Client software runs under the following hardware and operating systems:

- Personal Computer (PC) running the Microsoft Windows NT 4.0 operating system with Service Pack 6 or higher, Windows XP, Windows 2000, or Windows 98.
- Sun SPARC computer running the Sun Solaris operating system, version 8 (The initial release of MCCLNT 1.7 does not include a Solaris build).

The screen shots (sample screens) shown throughout this manual were captured from a Windows NT 4.0 version of the software. Under other operating systems, the sample screens may appear slightly different, but the functionality remains the same.

This document has been developed in accordance with the *DII COE Developer Documentation Requirements, Version 2.0*.

1.2 System Overview

METCAST is a standards-based, request-reply and subscription (channel) system for distributing weather information over the Internet using Hyper-Text Transfer Protocol (HTTP) and Multipurpose Internet Mail Extensions (MIME). The METCAST Client Segment includes a graphical user interface (GUI) to allow the user to select the products to be retrieved and the frequency and types of retrievals, and a retriever process that establishes communication with a METCAST server, submits a request for the data requested, and delivers the reply to the local user. The METCAST Server is comprised of three separate segments, which need not be installed on the same machine as the METCAST Client.

1.3 What's New?

This section lists changes made to METCAST Client since the initial release

Release 1.7.0.0 incorporates the following changes:

- The Metcast Client v1.7.0.0 installation program was built with InstallShield version 8.0. This will allow FNMOC to issue software patches as necessary to correct problems or add software enhancements to the released versions of the Metcast Client software.

- The Special Area and Satellite Area selection dialogs have been redesigned to simplify the creation of these areas types. When the mouse cursor hovers over the border of an area, the area's name will appear in a text box at the lower left corner of the dialog. Select an area by clicking on or within the highlighted area border. Please refer to the [Creating an Area](#) section for complete details.
- A new Channels interface for publishing and retrieving data via the Metcast channels. Refer to [Section 5.10](#) for complete details and instructions. The Channels functionality remains in the developmental stage and has not been released to Regional Forecast Centers.
- The new Channels publisher will use the same server settings as Metcast. Server additions and updates made via Metcast will be read by Channels and vice versa.
- Metcast now supports secure http protocol using SSL and certificates. Development and enhancement of this capability continues.
- Metcast Client now uses Java v1.4.
- A mailcap editor is provided for experienced Metcast users, who may need to modify and enhance their mailcap file. This editor is intended for advanced Users only, account an incorrectly configured mailcap file will cause Metcast to cease functioning. Refer to [Appendix B](#) for complete details.
- User contact information (name, phone number and email address) must be entered upon starting Metcast for the first time. User contact information is required so that FNMOC may track user requests and if necessary, notify users of important information, changes or data outages. The user contact information may be edited via the Options, Properties menu in the Metcast Requestor.
- Requests for Metcast Client technical support and problem reporting must now be made to the MSKC (METOC Systems Knowledge Center). Refer to [Section 3.7](#) for MSKC contact information.
- The set time zone function has been moved to the Metcast Properties dialog, accessed via the Options, Properties menu item.
- Increased the number of stations in the Stations.txt file from 5916 to 6220.
- The “Global” List feature for Ship Reports and PIREPS is now functional.
- Added a [Retriever Monitor](#) button to the Metcast Requestor Tool Bar that launches the Retriever Monitor GUI.
- Fixed a bug that caused Metcast Requestor to crash when double clicking within the List panel.

- A *Return Grids as Stored on Server* checkbox has been added to the Area Properties dialog. This provides a method to retrieve gridded data in the same map projection that was used to store it on the server. When this function is selected, the data file will not be converted into any other projection. This option was designed for a small number of users who use Metcast Client to feed gridded (GRIB) data into other applications. **DO NOT** check this box when using JMV to display gridded data, account the data will not be viewable.
- Added [Appendix C](#): Joint METOC viewer (JMV) Image File Format, to the Metcast Client Users Manual, which describes the format for imagery ingested by JMV, termed JMV Image Format, or JIF. JIF is a variant of Tag Image File Format (TIFF), with some added information written to TIFF “Image File Directory”, which quantifies attributes of the image. It is fully compliant with the TIFF 6.0 specifications (Aldus, 1992), so JIF images can be previewed with most commonly available image viewers.
- Added numerous code enhancements and made various other minor bug fixes to improve the performance and stability of Metcast Client.

Release 1.5.0.2 incorporated the following changes:

- Added capability to create and apply a Default Product List. This will simplify and speed the process of selecting products for new areas. Refer to Section 5.4 - Selecting Products for Retrieval, for details.
- A Metcast Quick Stop Guide is included in the installation. This guide details the necessary procedures to completely shut down the Metcast program. Instructions are provided for Window 2000, NT, and 98 systems as well as for Solaris systems. A shortcut to this document will be added to your Start menu Programs/FNMOC-SPAWAR folder. This document (and all others) can also be found within the Documents folder on the installation CD.
- Improved handling of Request settings in the Area Properties Dialog. It is now clearly indicated whether the Server or the Area defaults are being used. Added a method to quickly restore Server Request defaults to an area.
- Removed the Full List and Forecaster List radio button options in the Product Selection Dialog box. These buttons offered the choice of a full or an abbreviated (Forecaster) list of available products, which caused confusion for some users. All available products will now always be displayed in the Product Selection Dialog box.
- Added Area and List names to the product selection dialogs.
- New Perl scripts were added to the mailcap files to process AIRMET and PIREP data.
- Updated Stations.txt and Bulletins.txt for alphanumeric data retrievals.

- Expanded scope of **Appendix A – Solaris Notes**. The appendix now includes: descriptions of the Regional Center Operational scripts, directions to resolve data download problems and directions to recover a locked terminal.
- Added **Appendix A – Regional Center Installation Notes** to the METCAST Client Installation Procedures document. This appendix provides detailed installation and configuration instructions for installing METCAST Client in a Regional Center configuration.
- Various minor bug fixes and performance enhancements.

Release 1.5.0.1 incorporated the following changes:

- The Omnicast.jar file (Retriever Service) was rebuilt using Java v1.3 to fix the Retriever Service hang up problem.
- The Default Tau selection dialog box, which is accessed via the Product Selection dialog, has been modified. It now includes radio buttons to select taus every 3, 6 or 12 hours and an Ending Tau input box to select the last (ending) default tau.
- A Clean Area function has been added the Area context menu and the Area/List menu item. The clean function will remove all downloaded data from an Area's directories, but will leave the configuration files intact.
- The Product Selection Dialog box now displays the number of Grids Selected and Total Data Points Selected, to aid the user in estimating the size of a requested download. Multiply the number of Total Data Points by two, to compute the approximate size, in bytes, of the requested data.
- New procedures have been developed and documented to install and run the METCAST Retriever Service as a Windows NT Service. See Section 4.4.1 for complete details.

Release 1.5.0.0 incorporated the following changes:

- An Appendix for Solaris users has been added to this Users Manual.
- The Retriever Preferences Dialog box has been modified to allow the user to select the number of allowable simultaneous processing threads. Previous versions of Metcast Client allowed the user to select the number of allowable simultaneous downloads and this feature remains in software version 1.5.0.0. See Section 5.8.1 - Using the Retriever Monitor, for more detail.
- The new Retriever Service (Omnicast.jar file) also contains a new command in the Help menu of the monitor called Dump Status, which is designed for use by Software developers to trouble shoot various processing problems.
- New Retriever Service (omnicast.jar) fixes the On Demand download issue. The new Retriever Service is not compatible with the old metcast.exe (and vice versa); therefore it must be run with the new metcast.exe. The CD installation loads the compatible versions of these programs.

- Metcast Client does not need to be active to run scheduled areas.
- Updated Metcast.exe to move scheduled session control to the Retriever Service. Scheduled areas will no longer work without using the new Retriever Service.
- Modified Metcast Client installation software to query a user about his “type” of use, and then to install a mailcap file that has been optimized for that use. The three available options are: JMV-Only (Default), JMV-MIDDS, and NITES. If you are unsure what type of user you are, we suggest that you select the Default, JMV-Only radio button. Additional instructions are provided in the Metcast Installation Procedure document, which is included on the installation CD-ROM.
- Server configuration is now saved when defined areas are “preserved” during the uninstallation of Metcast. When the “preserve” option is utilized, the saved areas and the saved server settings will be available upon re-installing Metcast Client.
- Changes to Server settings are now immediately activated upon closing the Server Configuration dialog box.
- Fixed problems with global area selection and with selecting a special area from the special.txt file.
- Modified Selarea.exe to allow filtering of Satellite and Special Areas by server. Also changed area selection from nearest box center to nearest line segment.
- Added high-resolution Lat/Lon ability.
- Fixed problem of being asked multiple times for an area name when building a global area. Fixed bug that allowed area name conflicts with pre-existing areas and other directories.
- Eliminated the cause of an error message that was generated whenever two or more simultaneously running scripts were reading the contents of the UPPERAIR directory. Implemented an enhancement that removes and outdated lock file that may be left over in the UPPERAIR directory if the script aborts unexpectedly. The lock file, lock.uar, is used by the script as a lock to the critical section whose purpose is to clean up the UPPERAIR directory.
- The “Get data Newer Than” check box in the Setup Request – Area Properties dialog box may no longer be “unchecked” for observation or imagery data requests. However, the associated time field may still be modified. This modification was added to prevent Server overloads.
- Eliminated bug in calculation for the average periods for temperature and salinity.
- Changed Dup Area to copy the contents of remote areas, not just the pointer and added a progress dialog to the dupe area function.
- Made various minor bug fixes and performance improvements.
- Updated software version numbers for current release.

Release 1.4.0.2 incorporated the following changes:

- Changed Dup Area to copy the contents of remote areas, not just the pointer.
- Fixed problem of lock-up in OmniRetriever when stderr messages are produced. The Retriever would stop reading after 25 lines, but the process (perl) would block after filling up its output buffer. This solution keeps the retriever reading and only displays the first 25 messages.
- Fixed problems with merging observations and upper air reports.
- Added check for invalid lat/lon in tropicals, reject tropicals in case of certain errors.
- Made various minor bug fixes and performance improvements.

Release 1.4.0.1 incorporated the following changes:

- Updated version number for current release.
- Added support for proxy server authentication, for proxy servers that require the user to log in.
- Corrected the defaults in the setup of a List Request.
- Added error processing to the TAF and METAR reconstruct scripts to prevent the programs from crashing because of bad observations.
- Fixed a variety of minor program bugs.

Release 1.4.0.0 incorporated the following changes:

- Removed the default "always on" setting for SIGMETs. SIGMETs may now be turned on or off like any other text product.
- Modified the installer so that it checks for the presence of configuration files left from previous installations. If older configuration files are found, the installer does not modify them; this keeps the installer from overwriting any previous user settings.
- Modifications to the retriever service to change the way it performs a request. Now METCAST does not perform a full download every time a session is restarted. This includes pressing the start button, rescheduling the area, and even shutting down METCAST. With this modification, a full download will only occur the first time the area is created or if the user explicitly sets up the request to be done "on demand". The retriever service is able to "remember" the last download by writing the timestamp of the last download to the area directory. Each session gets a unique filename with the timestamp of the last download.
- When an area is scheduled, the status button is now enabled and the delete button is now disabled.
- Modified the Bulletin List product selection screen to show a description of the selected bulletin.
- Changed the mailcap file to route additional data types to MIDDs, if it is present.

- Fixed the merge script for upper air reports to correctly assemble a complete report from its component parts.
- Fixed a problem in the data processor executable that caused files to be deleted under certain circumstances, and a variety of other bugs encountered during testing.

Release 1.3.0.0 introduced a new scheme for processing downloaded grid data, that makes data available to the user earlier and makes better use of machine resources. Grids are now sent to the processor individually as they are downloaded, rather than downloading all grids for a session and sending them to the processor in a block. Sleep time is now built in between grids so that other processes can grab some CPU time even while grids are processing. Release 1.3.0.0 also incorporates some bug fixes and makes better use of the machine's memory.

Release 1.2.0.4 fixes a few bugs in the preceding version and also introduces processing for bathythermograph reports and for fully decoded METAR and SPECI reports. It also incorporates a modification to the TextDisplay.exe program to sort the bulletin headers before they are displayed to the user in the dialog box.

Release 1.2.0.3 introduces further improvements to ODD-N, the major ones being wildcarding of bulletin names and the capability to accept bulletin names that are not on the predefined list. This release also fixes the processing scripts to allow them to continue processing downloads even after a bad report is encountered.

Release 1.2.0.2 introduced various improvements related to ODD-N, including sorting and elimination of duplicates in the lists.

Release 1.2 introduced the capability to request, download, and review plain text and WMO-coded bulletins in textual format. The bulletins may also be used to feed a MIDDS system on the network. There is also a new capability to specify a list of stations by ICAO code, download various types of observations for each station, and view those observations in textual form. Together, these two new capabilities comprise the ODD-N system, which allows METCAST Client to serve as a backup for the Automated Weather Network (AWN) distribution system.

Release 1.1 of METCAST Client introduced two important new features:

- **Dynamic Product List.** METCAST Client now uses a special channel to download a list of all products present on the server. This is done each time METCAST Client is started, and periodically thereafter. When a user selects products to download using the Dynamic Product List, only the products that are actually available from the server are made available for selection. It is possible to subscribe to multiple servers and receive the product list for each.
- **Interactive Retriever.** The retriever process (the process that relays product requests to the server and returns the products to the client) is now an interactive program with a graphical user interface that lets the user monitor each retrieval in detail. It also gives the user the capability to stop individual retrievals without affecting other retrievals that are being carried out simultaneously.

2 REFERENCED DOCUMENTS

2.1 Government Documents

DDR-2 23 January 1998	<i>Defense Information Infrastructure (DII) Common Operating Environment (COE) Developer Documentation Requirements, Version 2.0, Defense Information Systems Agency, Joint Operability and Engineering Organization</i>
Unnumbered 18 June 1998	<i>Software Requirements Specification for METCAST, Space and Naval Warfare Systems Command, Environmental Systems Program Office (SPAWAR PMW-155), San Diego, CA</i>
MCCLNT.PENTIUM.NT40.1_7_0_0.SVD.doc 20 December 2002	<i>Software Version Description (SVD) for the METCAST Client Segment, release 1.7.0.0</i>
MCCLNT.PENTIUM.NT40.1_7_0_0.IP.doc 20 December 2002	<i>Installation Procedures (IP) for the METCAST Client Segment, release 1.7 Series</i>
MCJMV.PENTIUM.NT40.3_7_0_0.UG.doc 20 December 2002	<i>Users Guide (UG) for the Joint Metoc Viewer (JMV) Segment, release 3.7 Series</i>
MCSRVR.SUN.Solaris28.3_2_0_0.IP.doc 17 August 2001	<i>Installation Procedures (IP) for the METCAST Server (MCSRVR) Segment, Release 3.2</i>
MDMETC.SUN.Solaris28.1_2_0_0.IP.doc 10 August 2001	<i>Installation Procedures (IP) for the METOC Observations Database (MDMETC) Segment, Release 1.2 for Solaris</i>
MDCHNL.SUN.Solaris28.1_2_0_0.IP.doc 10 August 2001	<i>Installation Procedures (IP) for the METOC Channels Database (MDCHNL) Segment, Release 1.2 for Solaris</i>

2.2 Non-Government Documents

World Meteorological Organization (WMO), Geneva, Switzerland

WMO 306 1995	<i>Manual on Codes</i>
WMO 386 1992	<i>Manual on the Global Telecommunications System</i>

This page intentionally left blank.

3 SOFTWARE SUMMARY

3.1 Software Description

METCAST allows a user to define areas of interest, data requirements for each area, and frequency with which data are required for each area, and "subscribe" to the required data. The user may also define lists of bulletins of interest or lists of stations of interest, and subscribe to the data in the lists. Once a subscription is updated, the specified server will automatically update the data at whatever interval the user has specified. In simpler terms, the user sends the server a "wish list" of data requirements, and the server retrieves the data from its local database and sends it to the client as often as the user wishes.

The METCAST Client segment provides a graphical user interface (GUI) for area definition, data selection, and scheduling, and a "retriever" mechanism, which, at the specified interval, sends a request to the server and delivers the response to the user. The retriever has its own GUI to provide the user with constantly updated status for each retrieval session. METCAST Client also provides a viewer for text-based products (bulletin and station lists).

3.2 Software Inventory

A complete inventory of the METCAST Client software is contained in the *METCAST Client Software Version Description* listed in Section 2.1.

3.3 Software Environment

Complete descriptions of the software environment, and a list of manuals provided with the METCAST Client software, are contained in the *METCAST Client Software Version Description* listed in Section 2.1.

3.4 Software Organization and Operation Overview

The METCAST Client software has two main units:

1. A GUI that allows the operator to select areas, to define a data list for each area, and schedule retrievals for each area. The operator may also define lists of data that are not geographically bounded. These may be lists of plain text bulletins or lists of individual stations for which certain data are to be retrieved. The GUI also provides facilities to specify the data server for each data type, manage areas (Add, Delete, Rename, Duplicate), and view the status of requests.
2. A retriever function that transports a request to the server, waits for a reply, and delivers the requested data to the client. The operation of the retriever is essentially transparent to the user; it is initiated according to the schedule established in the GUI, and delivers the data in the background. A retriever monitor is provided to allow the user to view the status of retrievals and to interact with individual retrieval sessions.

3.5 Modes of Operation

There are two modes of operation for METCAST Client: Interactive Mode and Unattended Mode. In Interactive Mode, the METCAST Client GUI is displayed (or minimized) and user interaction with the program is available. In Unattended Mode, the Retriever is running as a Windows NT Service, and the GUI is not active. Unattended Mode permits retrievals to continue even when no users are logged on to the system. See Section 4.4 for instructions on configuring the METCAST Retriever as an NT Service.

3.6 Security and Privacy

There are no security and privacy considerations peculiar to METCAST Client.

3.7 Assistance and Problem Reporting

The primary point of contact for technical assistance with METCAST and JMV issues is the SPAWAR, METOC Systems Knowledge Center (MSKC), which is staffed 24 hours a day, 7 days a week.

MSKC Contact Information

Address	
3560 Hull Street, San Diego, California 92152-5001	
Telephone	
DSN: 524-3888	Comm: (619) 524-3888
DSN FAX: 524-3240	Comm FAX: (619) 524-3240
WEB Sites	
NIPRNET: https://mskc.spawar.navy.mil	SIPRNET: https://mskc.metoc.spawar.navy.smil.mil
E-mail	
NIPRNET: metoc@spawar.navy.mil	SIPRNET: metoc@metoc.spawar.navy.smil.mil
Internet Relay Chat (IRC) SIPRNET	
mIRC: #MSKC Channel (monitored 24/7)	Servers: mako.npmoc.navy.smil.mil ; irc.ismc.sgov.gov
Plain Language Address (PLA)	
SPAWARSYSCEN SAN DIEGO CA//MSKC//	

3.7.1 How to Report Problems with METCAST-JMV:

1. What to do if an error occurs:

- Save the error message or window. To do so, place the cursor in the error window and press ALT-PrintScreen simultaneously. This copies the error window.
- Paste the image of the error window into Word or PowerPoint and save the image as a GIF or JPG file.

2. What to put in the problem report

- The version numbers of JMV and Metcast Client. To obtain the four-digit version number, click on the Help button in the Tool bar, and select Show Version.
- A detailed description of the problem or error, noting what areas and/or lists were active in Metcast.
- If an area has a problem, use WinZIP to zip up the /jmvwin/noddsfls/area directory.
- If Dr Watson errors occur, please include the Dr Watson Log file. The Dr Watson Error log (drwtsn32.log) are located in C:\Winnt\ on Windows NT systems, and within C:\Documents and Settings\All Users\Documents\DrWatson\ on Windows 2000 operating systems.

3. Send an Email with attachments

- Send an Email with a detailed description of the problem, software version numbers, the ZIP file, GIF image of error messages and Dr Watson Logs to the METOC systems Knowledge Center (MSKC) at the appropriate address listed above (NIPRNET or SIPRNET).

This page intentionally left blank.

4 ACCESS TO THE SOFTWARE

4.1 Software Setup

Procedures for installing the METCAST Client software are contained in the *METCAST Client Segment Installation Procedures* (IP) listed in Section 2.1.

When you first start METCAST Client after performing a new installation, a dialog will pop up asking you to enter a user name and password for the server:

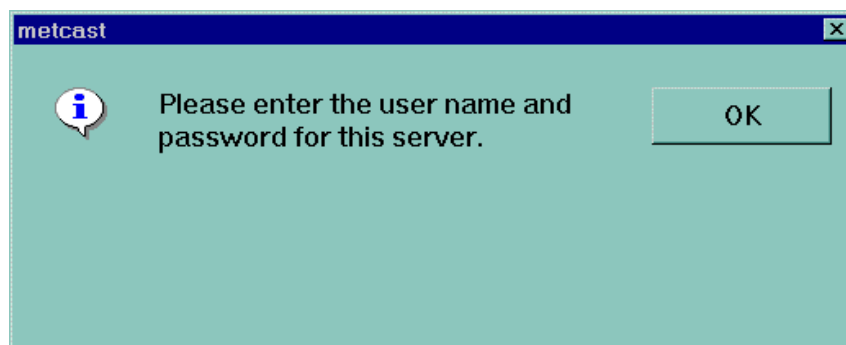


Figure 1. User Name and Password Dialog

Click on the **OK** button and the Server Configuration dialog will open:

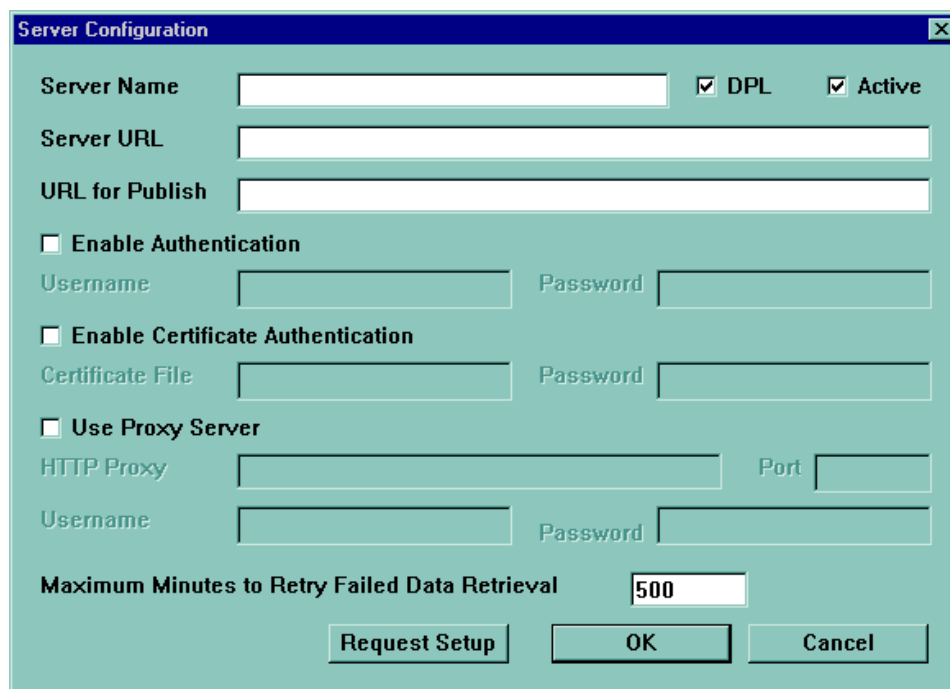


Figure 2. Initial Server Configuration Dialog

By default, this dialog contains entries for the server located at FNMOC. To use this server, ensure that the **Enable Authentication** checkbox is checked, then enter a valid **Username** and **Password** in the appropriate boxes.

To use a different server, enter the **Server Name**, **Server URL**, and **URL for Publish** in the appropriate boxes (consult with your System Administrator for the appropriate entries).

If accessing a server that requires certificate authentication, click the **Enable Certificate Authentication** checkbox, and enter a valid certificate name and password (consult with your System Administrator for the appropriate entries).

When METCAST Client was installed, it should have asked for verification of the IP address and port of your proxy server (it reads this information from your Windows registry). If the information was correct, and you are behind a firewall so that you need to use a proxy server, the **Use Proxy Server** checkbox should be checked, and the **HTTP Proxy** and **Port** boxes should be filled in with the correct information. You can check with your System Administrator to verify the information before proceeding.

The **Maximum Minutes to Retry Failed Data Retrieval** check box is pre-entered with a value of 500. This means that the retriever will continue to try to connect to a server for 500 minutes (approximately 8 hours) if no connection is made.

When finished with the entries, ensure that both the **Active** and **DPL** checkboxes are checked and then click on the **OK** button. This will close the Server Configuration dialog and start the download of the **Dynamic Product List (DPL)** for that server. The Dynamic Product List is a list of all products that are available on a server. Each time METCAST Client is started, and periodically thereafter, the DPL is downloaded to the PC running METCAST Client. To receive this list, the DPL checkbox must be checked. It is possible to connect to multiple servers and to receive the product list from each.

The **Active** checkbox determines whether or not the server connection is “activated”. To communicate with a server, this box must be checked. After closing the Server Configuration dialog, the following message dialog will appear.

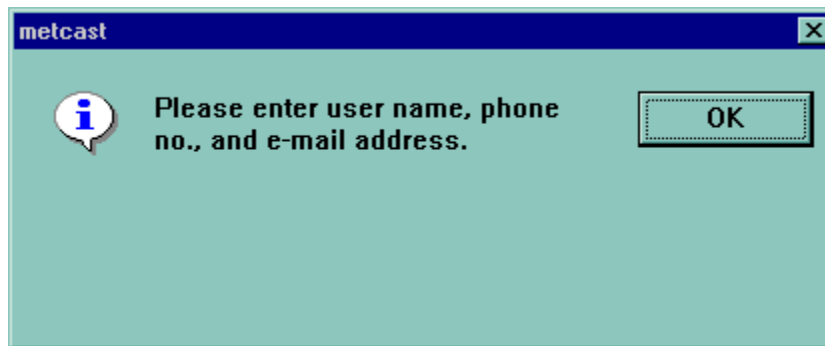


Figure 3. Metcast User Contact Information Dialog

Click the OK button to open the Metcast Properties dialog shown below.

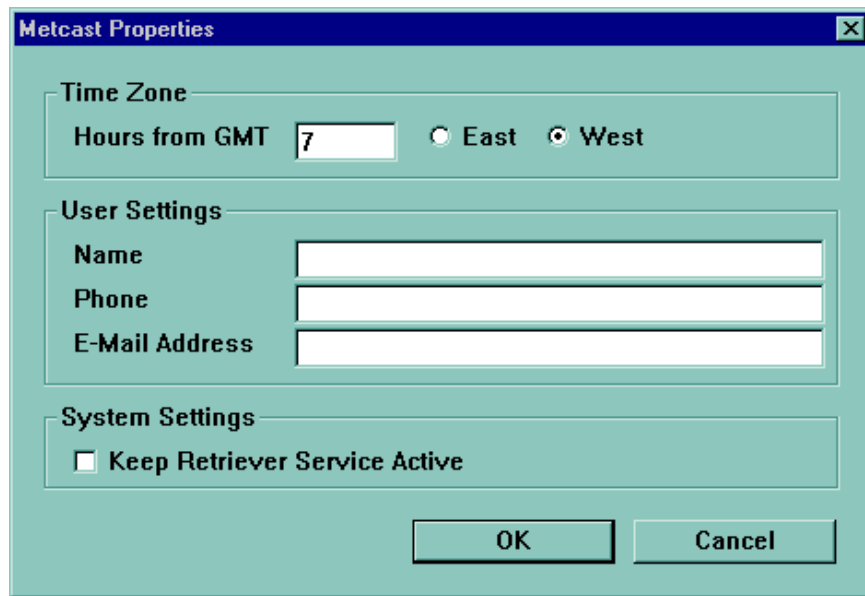


Figure 4. Metcast Properties Dialog.

Enter the required User Settings information in the Name, Phone and E-Mail Address text boxes. Leave the Keep Retriever Service Active checkbox UN-checked, unless you intend to run Metcast as a Windows NT service. This is described further in Section 4.4.

4.1.1 Familiarization

This section provides guidance for new users concerning basic elements of the METCAST Client screen and use of the menus and the mouse for navigation within METCAST Client.

4.1.1.1 The METCAST Requestor Screen

The figure at the top of the next page shows the main elements of the METCAST Requestor screen, which is the main control panel for defining and scheduling METCAST requests. The important parts to recognize are:

- | | |
|------------------------|--|
| Title Bar | The Title Bar contains the name of the window or of the application that created the window. The title bar has another function as well – it can be dragged to move the whole window. To do this, just position the cursor in the title bar, press and hold the left mouse button, and move the mouse to move the window. When finished, release the mouse button. |
| Minimize Button | This button is used to <i>minimize</i> the window; that is, to shrink the window to an icon on the screen. This is a convenient way to make more space on screen if you have multiple windows open. To restore a minimized window, just double-click on its icon. |

Maximize Button The Maximize Button is used to make the window fill the whole screen. When a window is maximized, it can no longer be resized by pulling on the frame, and the Maximize Button changes to a Restore Button (see below).

Restore Button When a window has been maximized, its Maximize Button becomes a Restore Button, which allows you to return the window to its former size (before it was maximized). After you have restored the window, you can again resize it by dragging the frame.

Close Button The Close Button closes the window.

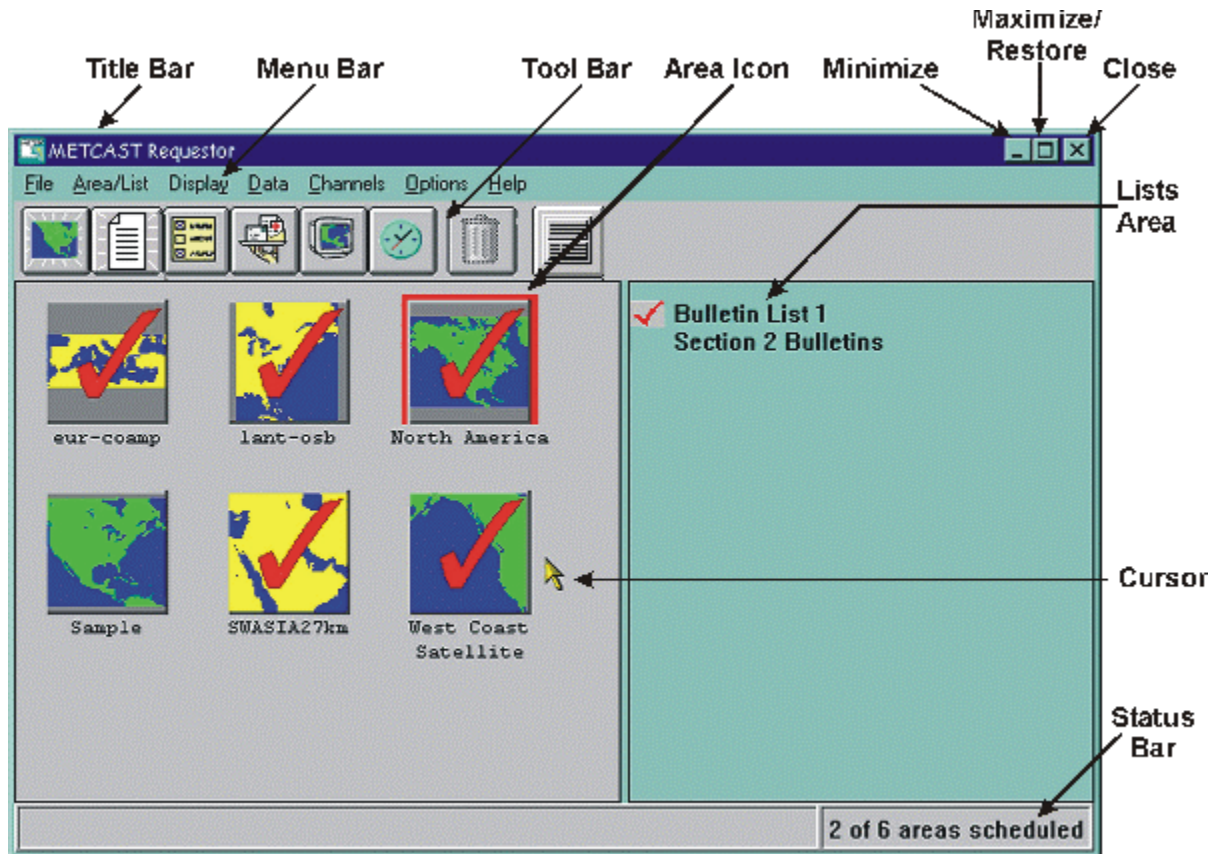


Figure 5. Features of the METCAST Requestor Screen

Menu Bar The Menu Bar contains the menus that apply to the window or the application that created it. Some of the items in the menu bar may be "grayed out" – this means that they are not active. The active items are shown in black. Inactive items may become active based on selections you make in other menus or elsewhere in the menu.

By clicking on an active item in the menu bar (or by holding the Alt key and pressing the letter key of the letter underlined in the menu title) you "pull down" a menu. You can then use the mouse to select an item in the

menu (the selected item will be highlighted) and click the left mouse button to select it. In some cases, this will perform an action immediately.

In other cases, it will open another menu, or open a dialog box, which is another window that lets you respond to questions or enter inputs. One particularly important item on the menu bar is the **Help** menu, which provides you with help specifically related to the current window.

Tool Bar	The Tool Bar contains a set of buttons that give you a quick way to perform common tasks like creating an area, selecting products, configuring the area's schedule, scheduling an area, and deleting an area.
Area Icons	An icon appears in the main part of the window for each area that you have defined. The icon is a small representation of the map of the area. An icon may be selected by clicking on it; a selected icon will appear with a red border. When retrieval of data for an area has been scheduled, its icon will have a large red check mark on it (as shown for the NORTHLANT area in the figure).
Lists Area	This area displays, by list name, the lists that are currently defined. A red check mark will appear to the left of each list that is scheduled. A list may specify a set of bulletins to be downloaded, or it may specify a set of stations for which certain data are to be downloaded.
Cursor	The cursor is a pointer that you can move around the screen using the mouse (see Mouse Basics, Section 4.1.1.2). The cursor represents the point on the screen at which an action will be directed. For example, if you put the cursor over a button on the screen and click the mouse button, the program will know that you just clicked on that on-screen button. The appearance of the cursor is usually an arrow, as shown in the figure, but it may change depending on the current function of the cursor.
Status Bar	The Status Bar is used to pass along informative messages that show you what the program is doing or what it is acting on. In the example, the status bar shows that there are six areas defined and that five of the six are scheduled for retrieval.

4.1.1.2 Navigation Basics

The figure below shows a standard 2-button mouse, which provides the easiest way to navigate through most of the METCAST Client screens.

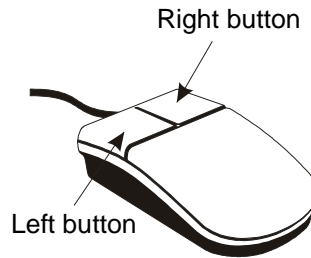


Figure 6. Two-button Mouse

The mouse has a ball on its underside that's hooked to sensors. As you push the mouse about on the mouse pad, the ball rolls and moves the sensors, which then tell the computer to move the cursor on the screen. The buttons on the mouse are used to select items from menus, or to cause some action when an active area of the screen is pointed to by the cursor. There are several different actions you can perform using the mouse buttons:

- | | |
|----------------------|--|
| Click | You <u>click</u> by pressing the <u>left</u> mouse button once and then quickly releasing it. |
| Double-Click | This means clicking twice in rapid succession. |
| Right-Click | Same as a click, but using the <u>right</u> mouse button. |
| Drag and Drop | To “drag” an object, you put the cursor over it, press and hold the left mouse button, and move the mouse to move the object to a new location. You “drop” the object on its new location by releasing the mouse button. |

Nearly all of the actions you perform using the mouse in METCAST Client can also be performed using the keyboard. For example, to pull down a menu, you hold down the ALT key and type the letter underlined in the menu title. You can then use the arrow keys to navigate within the menu, and press the Enter key to make a selection.

4.1.1.3 Windows Controls

Radio Buttons are round buttons that come in sets. They are called radio buttons because, like the station selector buttons on your car radio, only one button of the set can be “pressed” at any time. When you press one of the unselected buttons, the button that was selected gets turned off, and the button you just clicked gets selected. A selected button has a dot in the middle. The picture below shows a set of two radio buttons, with the “Show All” button selected.



Figure 7. Radio Buttons

Check Boxes are selectors for individual items. They often come in sets, but unlike radio buttons, more than one box in the set may be selected at a time. A selected check box displays a

“✓” or an “X”, while an unselected check box is blank. The picture below shows a set of check boxes.

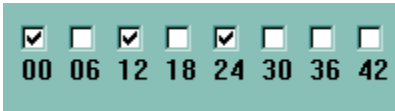


Figure 8. Check Boxes

Dialog Boxes are windows with controls that allow you to interact with the program by making selections, typing in information, using check boxes and radio buttons, or clicking on buttons. A typical dialog box is shown in Figure 9. This is the dialog box used for configuring a server, and it contains type-in boxes, check boxes, radio buttons, and buttons to help you do this.

Figure 9. Typical Dialog Box

4.1.1.4 The METCAST Requestor Tool Bar

The toolbar buttons have the following functions:



The **Create a New Area** button is used to create a new area of interest for data retrieval. It pops up a dialog that lets you select the area type, then a map that lets you draw and refine the area definition.

you draw and refine the area definition.



The **Create a New List** button is used to create a new bulletin or station list for data retrieval. It pops up a dialog that lets you select the type of list to be created, then another dialog to select the items to be included in the list.



The **Assign Products** button lets you select the products to be retrieved for the selected area or list (this button is "grayed out" when no area icon or list name is selected). It pops up the Choose Products dialog (for an area) or the appropriate Edit List dialog (for a list) to allow you to select products to be retrieved.



The **Schedule/Unschedule** button toggles the activity state for the selected area or list (this button is "grayed out" when no area icon or list name is selected). When an area is scheduled (that is, when the retriever is set to get data for the area as scheduled), the area icon displays a red check mark. When a list is scheduled, a red check mark appears to the left of the list name. This means that the area or list is active and data retrievals will proceed as scheduled. An unchecked area or list is idle and no data retrievals are taking place for that area or list.



The **Display Products** button opens the map display program for the selected area (or the text display program for the selected list) (this button is "grayed out" when no area icon or list name is selected).



The **Configure Area** button opens the configuration dialog for the selected area or list (this button is "grayed out" when no area icon or list name is selected). This dialog lets you set the schedule for retrieval of various data types.



The **Delete Area** button deletes the selected area or list from the workspace and deletes any data retrieved for the area or list from the local disk. Clicking the button opens a confirmation dialog to confirm the action before the area or list is actually deleted. This button is "grayed out" when no area icon or list name is selected.



The **Retriever Monitor** button launches the Metcast Retriever Monitor GUI, which is used to monitor and manage retrieval sessions and transactions. A session is a retrieval for a specific type of data for a specific area, or a retrieval for a specific list. If a retrieval is schedule for an area whose product list includes grids, imagery, and observations, for example, you will start three separate retrieval sessions, one for each type of data. The retriever monitor also lets you stop individual retrieval sessions.

More details on each of these actions may be found in Section 5.

4.1.2 Access Control

There is no access control specific to METCAST Client; the System Administrator controls access to the software on the host machine through granting of user accounts and privileges.

4.1.3 Installation and Configuration

The *METCAST Client Installation Procedures (IP)* referenced in Section 2 provide complete instructions for installation of the METCAST Client software.

4.2 Initiating a Session

To start METCAST Client, double-click on the desktop icon or open the *C:\jmvwin* directory in Windows Explorer and double-click on the **metcast** icon.

4.3 Stopping and Suspending Work

You can stop METCAST Client by selecting **Quit** from the **File** menu, or by clicking the Close button  at the upper right corner of the METCAST Client window.

4.4 Running the Retriever Service as a Windows NT Service (Windows NT Platform only)

METCAST Client may run the Retriever Service as a native Windows NT service. Below are the advantages and disadvantages of doing so.

Advantages of being an NT Service:

- Running the Retriever Service as an NT service allows your computer to make METCAST requests while nobody is logged on to it. You can set up your requests using the GUI and then exit the GUI or even log off the machine, and the retrievals will still continue.

Disadvantages of being an NT Service:

- Additional install/uninstall steps
- The System Tray icon for the Retriever Service is not available meaning that you must run the Retriever Monitor via the *RetrieverMonitor.exe* program rather than double-clicking the system Tray cloud icon.

4.4.1 Installing the Retriever Service as an NT Service

The following steps are required to install the Retriever Service as an NT Service for METCAST Client (Administrator privileges are necessary when performing these operations. See your systems administrator for assistance if necessary).

1. Install METCAST Client version 1.7.0.0. Earlier versions of Metcast Client (version 3.5.0.2 and earlier) require a slightly different path setting. If using an earlier version of Metcast, refer to the corresponding Users manual for directions.

2. Ensure that no METCAST Clients are running on your system. If there are any, exit them now. If a Retriever Service cloud icon is in your System Tray, right click on it and choose **Shutdown Retriever** from the popup menu.
3. The path to the Java Virtual Machine dynamic link library file (jvm.dll) must reside in the system path. To append the jvm.dll path to the existing system path, follow the steps below:
 - a. Open the Windows Control Panel and double click on the **System** icon to open the Windows NT, System Properties Dialog box.
 - b. Click on the **Environment** Tab to display System Variables as shown below.

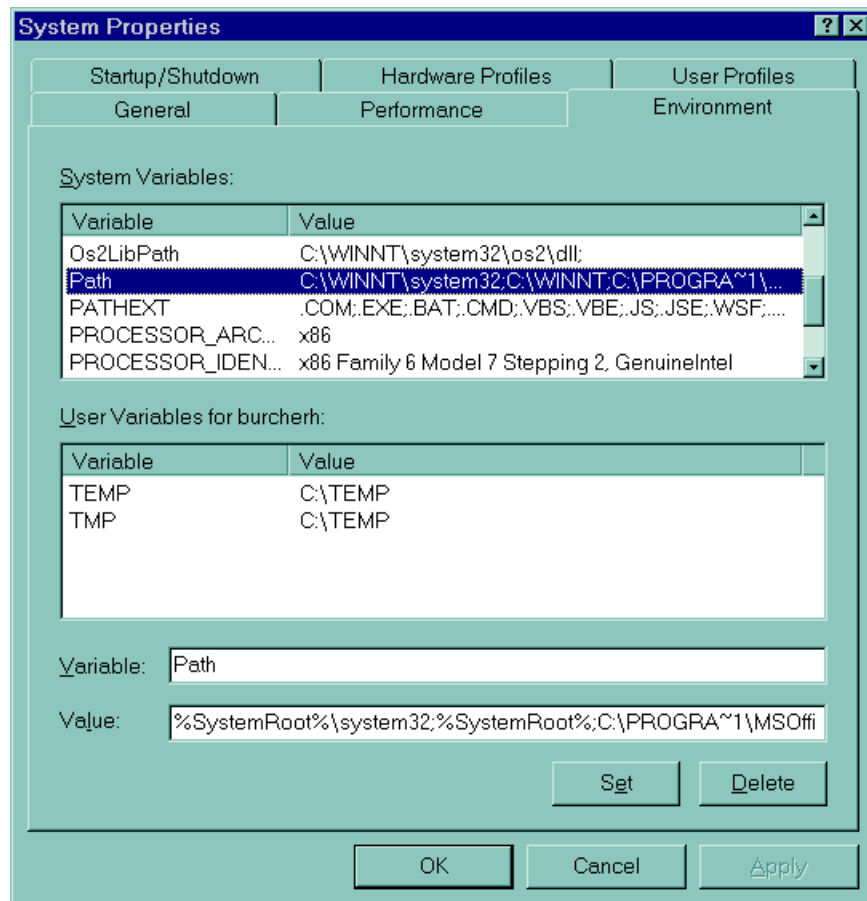


Figure 10. Windows NT System Properties Dialog box.

- c. Locate and highlight **Path** in the System variables text box. The Path and its Value will appear in the Variable and Value text boxes at the bottom of the dialog box. Click inside the **Value** text box and move the Cursor to the end of the path. Append the following path to the existing path. Ensure that there are no spaces between the existing path and the new path value.

;C:\jmvwin\noddsfls\jre\bin\client

Note: If METCAST Client was installed on a drive other than the C drive, enter that drive letter in place of the C.

- d. When finished, click on the **Set** Button. This will activate the **Apply** button. Click the Apply button, and then click on the **OK** button to save your inputs and close the dialog box.
 - e. Shut down and restart your computer to activate the changes in the system path.
4. Open a DOS command prompt window and set the directory to noddssfls by typing the command: **cd C:\jmvwin\noddssfls**. Ensure that the proper drive letter is used if Metcast was installed on a drive other than the C drive.

The following command will install the Metcast Retriever Service into the Windows NT Services List. Type this command and press Enter:

**ServiceManager -i -Djava.class.path=lib\kiwi.jar;lib\omnicast.jar
-Djava.security.policy=omnicast.policy wrkdir=c:\jmvwin\noddssfls -daemon**

Note: When typing the command, include a space between the end of the first line above (...omnicast.jar) and the beginning of the second line (-Djava...). If Metcast was not installed on the C drive, enter the appropriate drive letter in place of the c, in the second line of the command.

The response: *Metcast Requester Service Installed* will appear soon after executing this command. You may then close the DOS window.

5. Open the Windows NT **Services** Window by double clicking on the **Service** icon located in the Windows NT Control Panel. Locate and highlight the newly installed **Metcast Retriever Service** entry, as shown below.

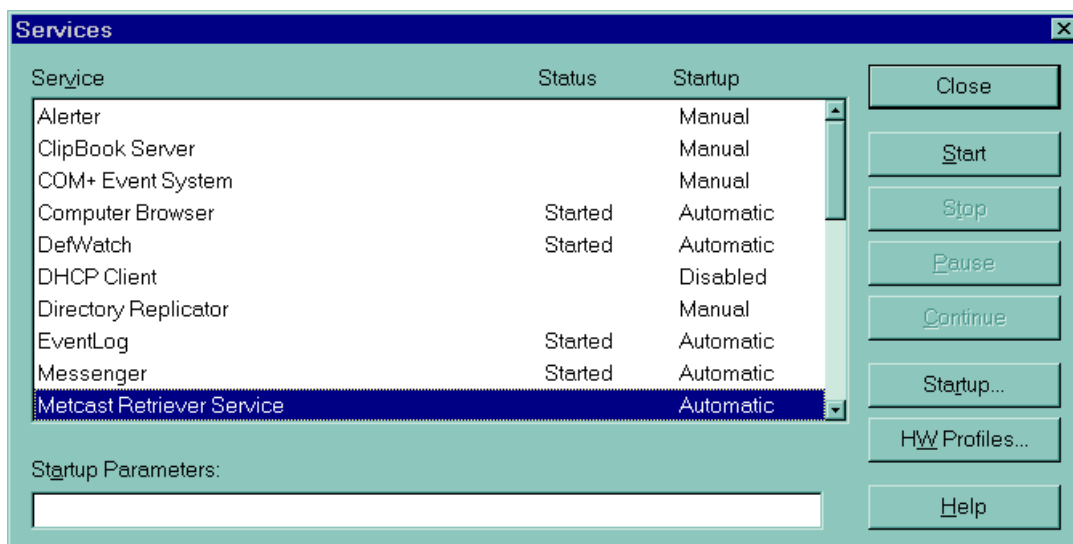


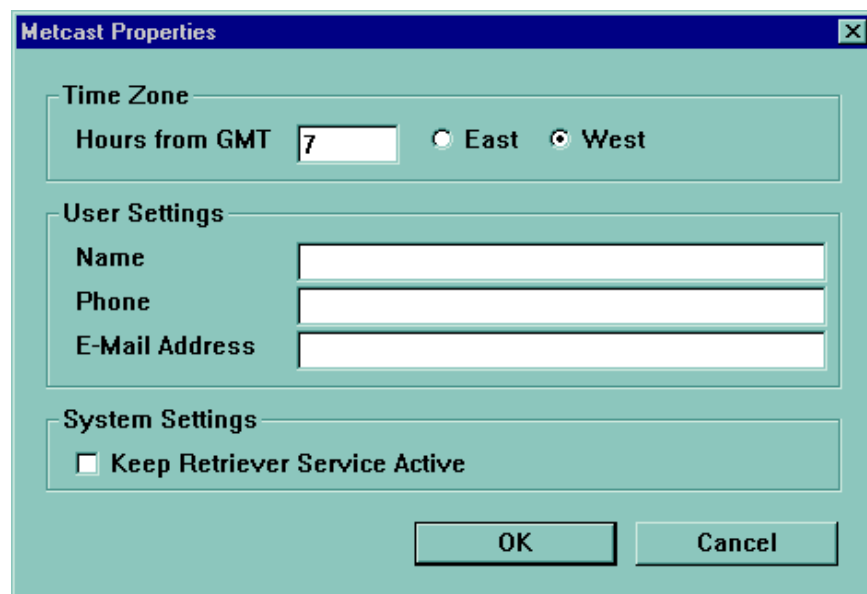
Figure 11. Windows NT Services List

The Startup setting associated with the Metcast Retriever Service should be listed as **Automatic**. If it is not, click on the Startup button, then select Automatic from the list of Startup options. Click on the OK button to accept this change and you will be returned to the Services Dialog box.

Press the **Start** button to start the Metcast Retriever Service as a background application. Within a few seconds a “Started” status will appear in the Service window. You may then close this dialog box. From now on, the Retriever Service will automatically start during bootup of your machine.

6. Although the Metcast Retriever Service will start automatically upon system boot up, the Metcast Requestor must be manually started at least once after boot up to initiate the *retrieval sessions* for the defined areas and lists. The **Keep Service Active** option must also be selected.

Launch Metcast Client and open the **Options** menu. Select the **Properties** option to open the **Metcast Properties** dialog shown below. Click the **Keep Retriever Services Active** box.

**Figure 12. Keep Service Active Menu option**

Note that the icon for the Retriever Service does not appear in the System Tray. To monitor your METCAST retrievals, you must run the executable file `RetrieverMonitor.exe` that is located in the `noddsls` directory. A short cut to this program is located within the Start menu\Programs\FNMOC-SPAWAR folder.

Once Metcast requests and retrievals are being made, the user may close the Metcast GUI. Data requests and retrievals will continue to be made even when the user has logged off of the machine.

Note:

The Retriever Service must be removed as an NT service before METCAST Client may be uninstalled. The procedure for removing the Retriever Service as an NT service is described in Section 4.4.2 below.

4.4.2 Uninstalling the Retriever Service as an NT Service

To stop running the Retriever Service as an NT Service, follow the two steps below (Again, you must have administrator privileges)

1. Close any Metcast Clients (Requestors) that may be running.
2. Open a DOS Command Prompt window and set the directory to jmvwin\noddsfls. Enter the command: **ServiceManager -r** . This command will remove the Metcast Retriever Service from the Windows Services List. The messages "*Metcast Retriever Service stopped*" and "*Metcast Retriever Service removed*" will confirm that the retriever service has been stopped and removed from the Windows NT Services List.

4.4.3 Monitoring a Retriever Service From a Remote Computer

METCAST Client includes a special purpose Retriever Monitor that is called the Remote Retriever Monitor. The Remote Retriever Monitor enables you to monitor METCAST Retrievals that are occurring on a remote system. This means that you can monitor retrievals for JMV's remote areas, or monitor retrievals occurring on remote machines where the Retriever Service is running as a Windows NT service (see above). Without logging on to the system, the Metcast retrieval activity can still be viewed remotely.

Note: The Remote Retriever Monitor allows one to Start, Stop, and Remove retrieval sessions that are occurring on the remote system. However, if a session is removed, it cannot be re-started remotely. It must be restarted via the Metcast Requester installed on the remote system. Additionally, the Retriever Preferences cannot be changed remotely and must be modified on the remote system running the Metcast Requester (via the Retriever Monitor File menu, Retriever Preferences option).

To run the Remote Retriever Monitor, follow the steps listed below:

1. Using Windows explorer, navigate to your jmvwin\noddsfls directory and run the program RemoteRetrieverMonitor.exe. The following window will appear:

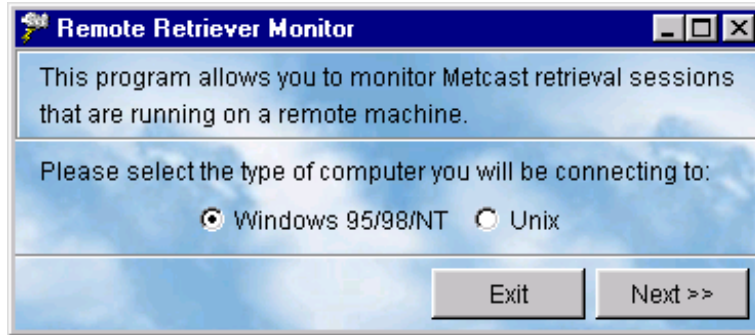


Figure 13. Remote Retriever Monitor operating system selection.

2. Select Windows 95/98/NT and then click the Next button. The screen shown below will appear:



Figure 14. Remote Retriever Monitor IP address input.

3. Type in the IP address for the computer that you wish to monitor retrieval sessions and then click the Next button. A Retriever Monitor will now be displayed that shows METCAST retrieval activity on the remote computer.

4.5 Creating a Remote Link

A remote link area is one whose data is physically located on another machine on the network. You can view the data in a remote link area, but you can't decide what data is downloaded or schedule and unschedule the area -- these functions are controlled on the machine that receives the data.

This feature is typically used at sites wishing to optimize their Internet bandwidth. To avoid duplication of requests and data downloads, Metcast Client is run on a central computer, and the downloaded data is made available to individual workstations as Remote Link areas.

The following steps are required to create a remote link:

1. **File Sharing Permissions.** Install METCAST Client on the central download computer and share the data folder, with read-only permissions. To do this in Windows NT, go to the folder in which you installed METCAST Client (typically *C:\jmvwin*). Underneath this directory

you will find a *noddsgfs* folder. Right-click on the *noddsgfs* folder and select **Sharing...** from the pop-up menu. A Properties dialog, open to the Sharing tab, will then appear:

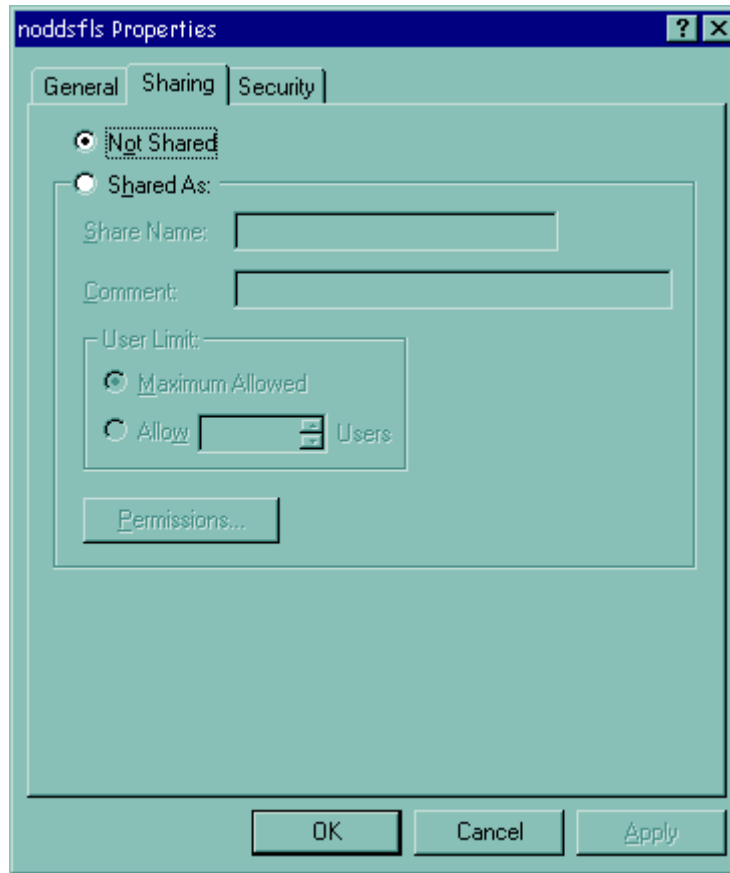


Figure 15. Folder Sharing Options

Click on the **Shared As** radio button and the sharing options will be activated. In the **Share Name** box enter a descriptive term like "Central noddsgfs". Click on the **Permissions** button to open the Permissions dialog:

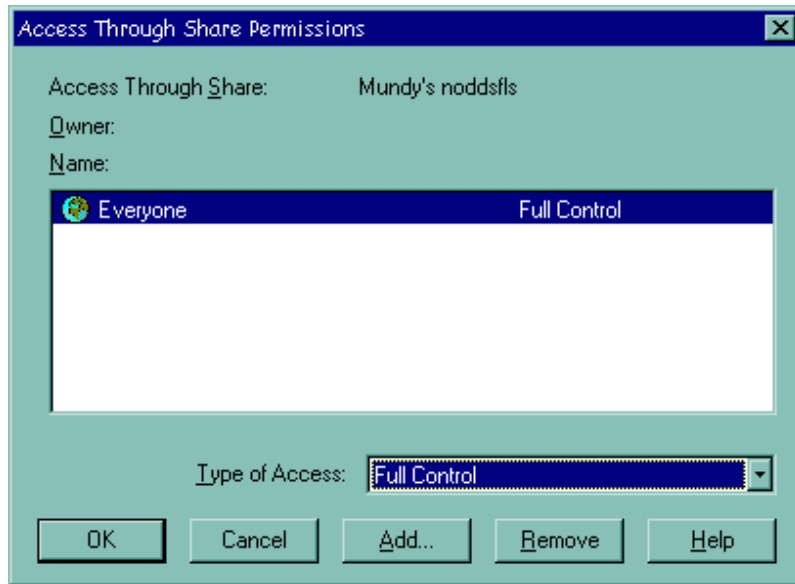


Figure 16. Share Permissions Dialog

Click on the down arrow next to the **Type of Access** list box and select **Read** access for Everyone, then click on the **OK** button. Then click on the OK button in the Properties dialog. You have now shared the *noddsls* folder with read-only permissions. This means that other users on the network can access the folder and read the data that it contains, but cannot write to the folder.

2. **Map Network Drive.** Open Windows Explorer on the local computer that will be used to access data from the central download computer. In the Menu Bar, click on **Tools**, and then select **Map Network Drive** from the drop-down menu. The Map Network Drive dialog shown below will then appear.

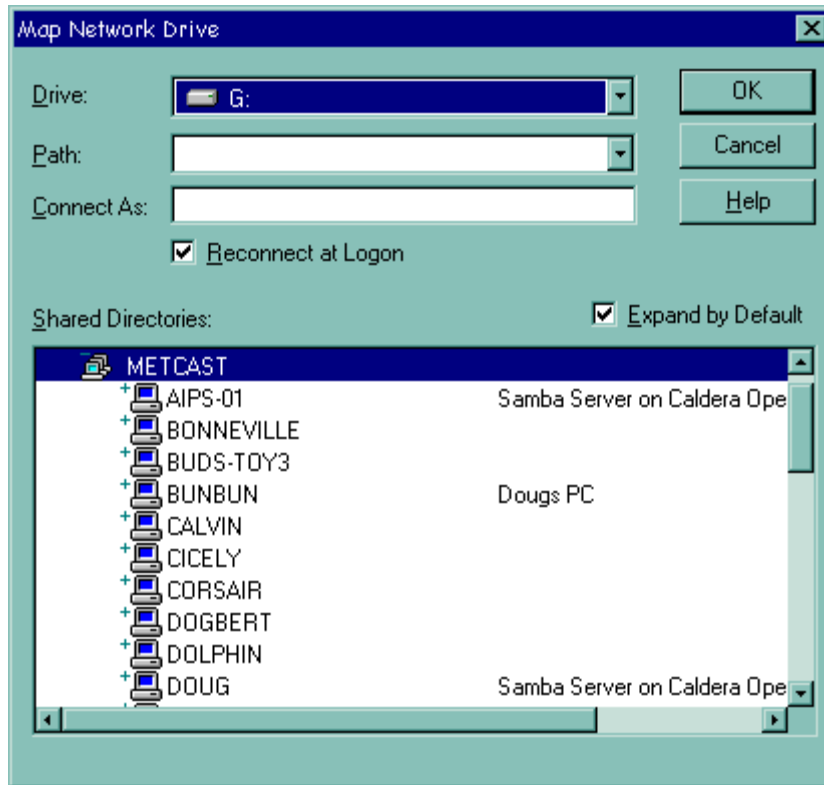


Figure 17. Map Network Drive Dialog

Select any available drive letter from the pull-down list at the top. In the lower (Shared Directories) box, navigate to the *Central nodd\$fls* directory that was shared in Step 1. The path to this directory should then appear in the **Path** box. In the **Connect As** box, enter a user name that you logged in with. Ensure that the **Reconnect at Logon** checkbox is checked. Click the **OK** button to map the drive.

You are now configured to retrieve remote **Area** and remote **List** data. See [Remote Link](#) in Section 5.3.1 for instruction on selecting a remote **Area**. See [Selecting a Remote List](#) in Section 5.6.3 for instructions to select Remote Bulletin and Station Lists.

5 USING METCAST CLIENT

This section describes how to use METCAST Client's Requestor to set up and schedule data retrievals and how to view the data you have retrieved. We begin by discussing the basic steps required, and then proceed to a detailed discussion of each step.

5.1 The Basics

To use METCAST Client to retrieve and view data, follow this set of steps:

1. Set the Time Zone and Data Server Options. Use the **Options** menu to set your time zone, enter User Settings, and to tell METCAST Client what data servers to use. Click on the **Properties** item to set your time zone and to enter your user contact information – Name, phone number and email address. This information will be used only to notifying users of important issues or problems. Do not check the Keep Retriever Service Active box. Under the **Servers...** item, you can manage a list of servers. You can select a server from a list, edit a server's Universal Resource Locator (URL) or other parameters, add a new server, remove a server from the list, or change the order of servers in the list. METCAST Client is shipped with a configuration file that points it to the METCAST server at FNMOC. If there are local servers, data retrieval may be faster – ask your System Administrator where the best servers are for your installation. The **Request Setup** button on the Server Configuration screen opens a separate dialog that lets you specify the schedule for retrieving each data type. [Section 5.2](#) discusses server setup in more detail.
2. Select or create an area of interest, bulletin list, or station list. If the area you're interested in already is shown as an icon on the METCAST screen, just click on its icon to select it. A red border will appear around the icon. If you need data for an area that's not on the screen, click on the **Create Area** button in the toolbar (or pull down the **Area/List** menu and select **Define Area...**) and use the dialogs that appear to define a new area. If you want to retrieve data for an existing bulletin list or station list, click on the list name in the List Area to highlight it. To create a new list, pull down the **Area/List** menu and select **Create New List**. [Section 5.3](#) discusses area definition in more detail while [Section 5.6](#) discusses list definition.
3. Choose the products to retrieve. Once an area or list is defined and selected, you can choose the set of products to be retrieved for that area or list (each area or list has its own product list). With the desired area or list selected, click on the **Assign Products** button in the toolbar (or pull down the **Area/List** menu and select **Select Products...**). If you're working with an area, this will open the Choose Products dialog that lets you select the products to be retrieved for the selected area. [Section 5.4](#) discusses this process in more detail. For a list, the appropriate Edit List dialog for the list type will be opened. [Section 5.6](#) discusses list product selection in more detail. The product selection process only needs to be done once for each area or list, unless there are changes to the desired products.
4. Configure the Retrieval. This section is optional. Data retrieval schedules are configured by data type (gridded, Observations, Imagery etc), and by server (see Item 1, above). You can

also set data retrieval options by area. To do this, right-click on the area icon and select **Setup Requests** from the pop-up menu, or highlight the area and click on **Area/List** in the Menu Bar, and select **Setup Requests**. This will open a dialog that lets you specify the Request Type (On Demand, Request Updates Every (minutes), or Scheduled) for a selected Product Type, as well as select the number of images to retain. The maximum amount of time since the data to be downloaded was updated may also be selected in this dialog box. These settings apply only to the selected area. [Section 5.5](#) discusses these configuration options in more detail.

5. Schedule the Area or List. To schedule the retrieval, make sure that the desired area or list is highlighted, and then click the **Schedule/Unschedule** button in the toolbar or pull down the **Area/List** menu and select **Schedule**. Scheduling the area or list starts the retrieval process according to the schedule set up for each data type. If a particular data type is set for "on demand" scheduling, the retriever for that type of data is started immediately when the area is scheduled, runs once, and shuts down. If periodic retrievals are scheduled, a retriever is started when the area or list is scheduled, and another is started when the specified number of minutes have elapsed since the first retriever finished its run, and so on. If retrievals at specific times were specified, a retriever is started at each specified time. An area that is scheduled displays a red check over its icon as long as it is active. A list that is scheduled shows a red check mark to the left of the list name. [Section 5.6](#) discusses this process in more detail.
6. If desired, monitor the retrieval. You can monitor the retrieval status in two ways:
 - a. You can use the Retriever Monitor to view the status of the retriever transactions, and also to start and stop individual retrieval sessions. [Section 5.8](#) discusses the retriever monitor in more detail.
 - b. You can use the **Status** item under the **Area/List** menu to keep track of the progress of the retrieval. This opens a list that shows the data that have been retrieved for the area, with new items shown in red and older items in blue. This display is continuously updated. [Section 5.8](#) discusses the status display in more detail.
7. After the retrieval is complete, view the results. Highlighting an area icon, clicking the **Display Products** button in the toolbar, pulling down the **Display** menu and selecting **Map Display**, or double-clicking on the area icon will open the map display program. This program is discussed in more detail in the *Joint METOC Viewer User's Manual*, cited in [Section 2](#). In this manual, we will simply say that any of the actions described above will result in the opening of a dialog that lets you choose the items to display from a list of those that have been retrieved. When this dialog is closed, the map display opens to show the selected products.

If you have retrieved upper air data, you may also view the soundings retrieved as a Skew-T, Log P display by pulling down the **Display** menu and selecting **SkewT**. You will be presented with a dialog that allows you to select the sounding(s) to display, and then the Skew-T display will be opened. More details on the Skew-T display are contained in the *Joint METOC Viewer (JMV) User's Manual* cited in [Section 2](#).

You may view a list by double-clicking on its name in the Lists Area, or by right-clicking on the list name and selecting **Display** from the pop-up menu, or by clicking on the list name to highlight it and then clicking the **Display** button on the toolbar. What you see next depends on the type of list that is selected for display:

- **Bulletin List:** When you select a bulletin list for display, you will first see a dialog listing all of the bulletins received for the list and offering options, as shown in the figure below.

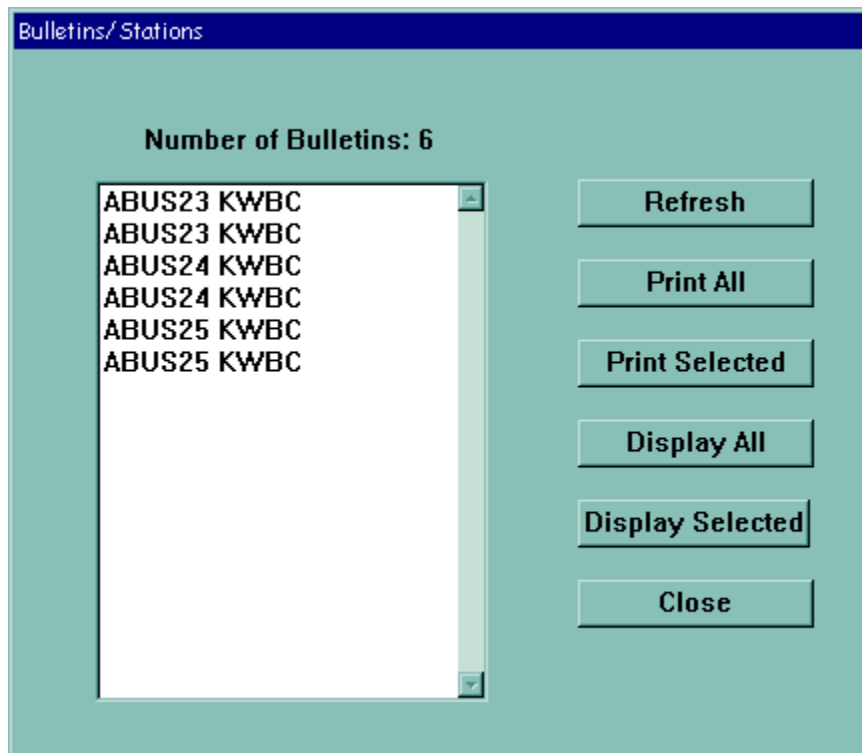


Figure 18. Bulletin List Options Dialog

You can display an individual bulletin by double-clicking its name or by clicking on it to highlight it and selecting **Display Selected**. You can select a continuous range of bulletins for display by clicking on the first bulletin in the range, pressing and holding the **Shift** key, and then clicking on the last bulletin in the range. To select multiple bulletins without selecting those between, click on the first bulletin, then press and hold the **Ctrl** key and click on the other bulletins to select them. The **Display Selected** button will then display all of the bulletins that are highlighted in the list. The **Refresh** button refreshes the list with the latest bulletins received. The **Print All** button sends all bulletins in the list to the default printer. The **Print Selected** button prints only the highlighted bulletins. The **Display All** button sends all bulletins in the list to the text display. The **Close** button closes the bulletin selection window.

The text display for bulletins is shown in the figure below. To search for a particular station or report, you can use the **Find** option under the **Edit** menu. You can print directly from the text display, and you can also copy sections of text and which can then be pasted

into other applications. To copy text, highlight it and then press the **Ctrl** key and the **C** key together. The text is then placed on the Windows clipboard, from which you can paste it into other applications by placing the cursor where you want the text to appear and pressing the **Ctrl** key and the **V** key together. To close the text display, use the Close icon in the upper right corner or select **File** in the Menu Bar and **Close** from the pull-down menu.

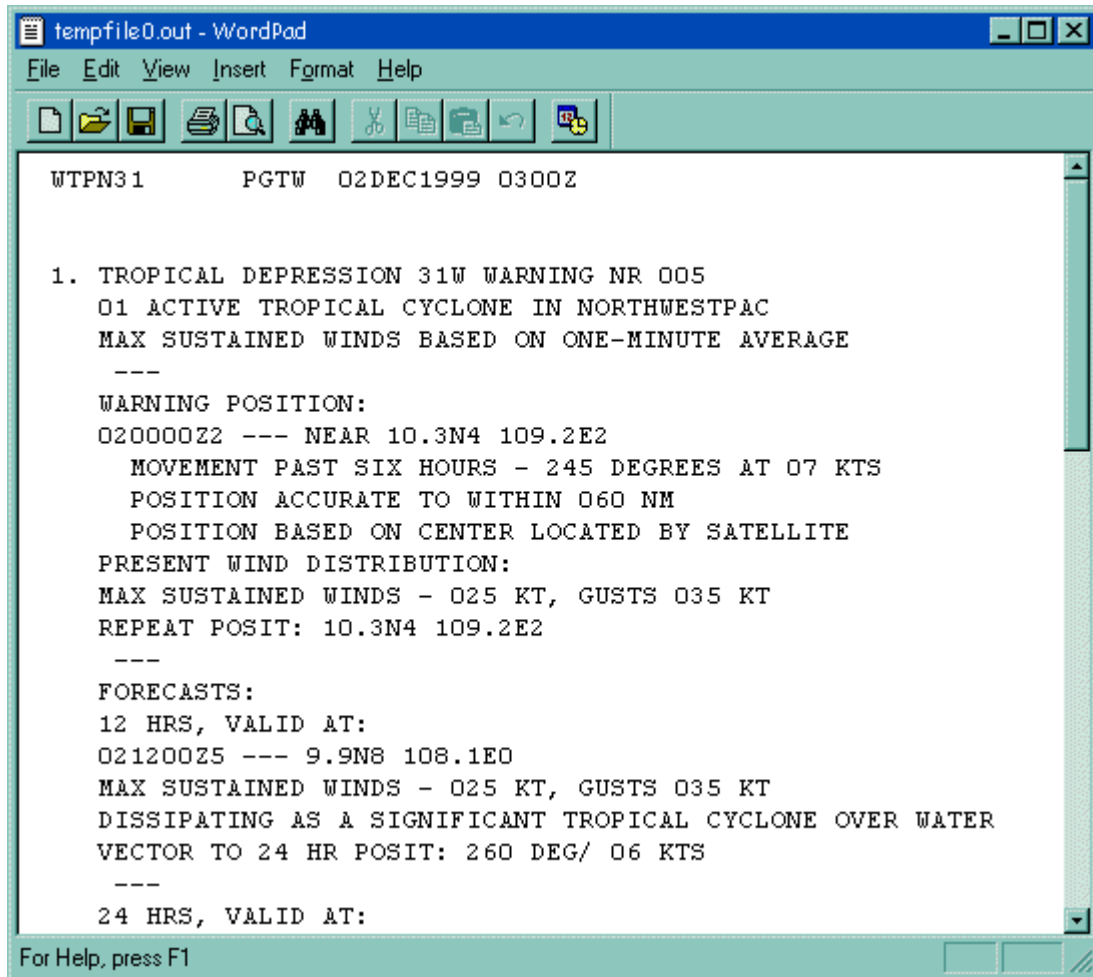


Figure 19. Text Display of Bulletin

- **Station List:** When a Station List is selected for display, the entire list is loaded into the Text Display window. At present, the reports are displayed by type: METARs and SPECIs, then TAFs, then Upper Air Reports, then Surface Synoptic Reports. In future releases, the reports will be displayed by station, with all reports for one station displayed, then all reports for the next station, and so forth. The Text Display window is the same as that for bulletins.

5.2 Server Setup (the Options Menu)

The **Options** menu contains three items. The **Properties** option opens a dialog that allows you to set your time zone (in hours relative to GMT or Zulu time) and to enter User and System Settings. This dialog is shown below.

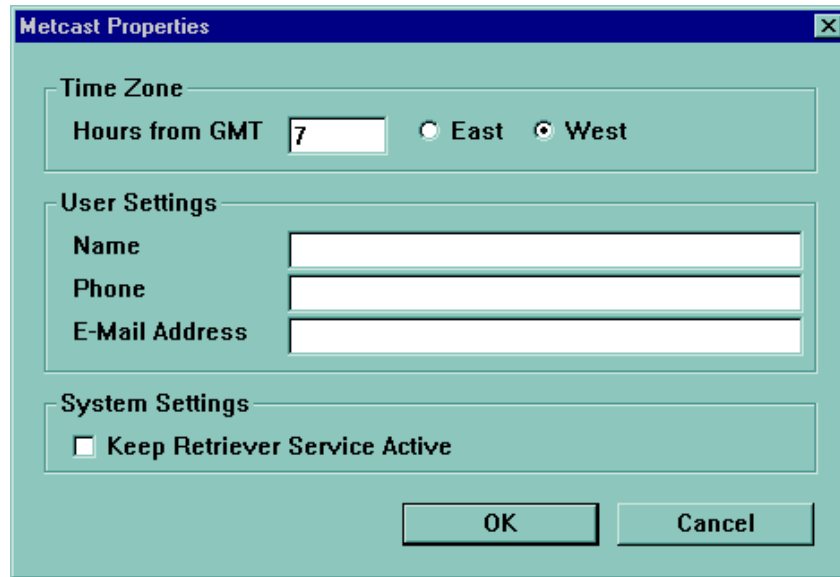
The image shows a Windows-style dialog box titled "Metcast Properties". It has a blue title bar with a close button (X) in the top right corner. The dialog is divided into three sections: "Time Zone", "User Settings", and "System Settings". In the "Time Zone" section, there is a text box labeled "Hours from GMT" containing the number "7", and two radio buttons labeled "East" and "West", with "West" being selected. The "User Settings" section contains three text boxes labeled "Name", "Phone", and "E-Mail Address", all of which are currently empty. The "System Settings" section contains a single checkbox labeled "Keep Retriever Service Active", which is currently unchecked. At the bottom right of the dialog are two buttons: "OK" and "Cancel".

Figure 20. Metcast Properties dialog.

Type in the number of hours (maximum 12) your time zone is away from GMT (Greenwich Mean Time), and click the appropriate direction button. Enter your name, Phone number (DSN preferred), and email address. This information will only be used to notify users of urgent issues. The Keep Retriever Service Active check box should only be checked when Metcast is set up to run as a Windows NT service. Click the **OK** button when finished.

The **Channels** item launches a dialog box to manage Metcast Channels. See [section 5.10](#) for details

The **Servers** item opens the Network Servers dialog shown in Figure 21, which allows you to manage the servers.

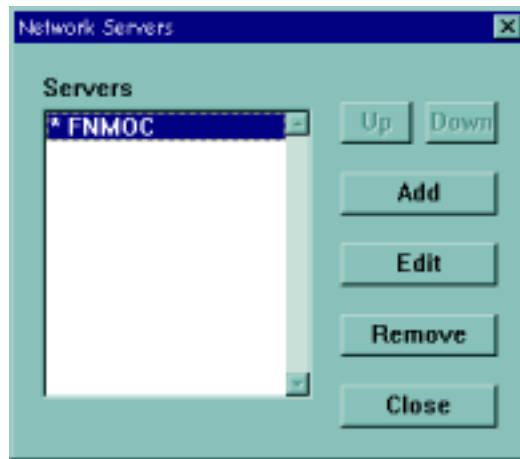


Figure 21. Network Servers Dialog

Click the **Add** button to add a new server. This opens the Server Configuration dialog, shown in Figure 22 below. This dialog will open with blank data fields, but it is shown here with typical data entries. Click the **Edit** button (or double-click a server name in the list) to open the same dialog with data settings for the highlighted server. Edits made to an existing server, will be activated upon closing the Server Configuration dialog box.

Server Configuration

Server Name: FNMOC ☒ DPL ☒ Active

Server URL: http://152.80.49.210/cgi-bin/mcsrvr/rest/server

URL for Publish: http://152.80.49.210/cgi-bin/mcsrvr/rest/taker

☒ Enable Authentication

Username: cumulus1 Password: *****

☒ Enable Certificate Authentication

Certificate File: weather Password: ****

☒ Use Proxy Server

HTTP Proxy: 152.80.52.110 Port: 80

Username: cumulus2 Password: *****

Maximum Minutes to Retry Failed Data Retrieval: 500

Request Setup OK Cancel

Figure 22. Source Configuration Dialog With Typical Entries

The **Server Name** label at the top shows the server affected by changes made in this dialog. The **Server URL** text box is used to enter the Uniform Resource Locator (URL) for the server, which identifies its location on the World Wide Web. The URL will always start with http://, which identifies the Internet protocol used to transfer the data. Both **http** and **https** (secure http) are

supported. The data between the double slash and the next slash is called the *domain*, and specifies the Internet address of the machine where the server resides. This can be either a string of four numbers as shown in Figure 22 (152.80.49.210) or an Internet name (like zowie.metnet.navy.mil). The data following the single slash (after the domain) specifies where the server is located on the domain machine. Metcast supports both http and https protocols.

METCAST Client is supplied with a default source configuration that uses FNMOC servers for all data types. You can use these without modification if desired. If there are local servers at your location, however, you will probably get better response by specifying them. Your System Administrator should be able to provide you with the server addresses.

The **URL for Publish** text box is used to enter the URL for the channels server. This URL is usually the same as that in the Server URL text box, with the word “server” replaced with “taker”, as shown in the figure above. Your System Administrator should be able to provide you with the server address.

The **Enable Authentication** box should be checked if your server requires you to log in to gain access. Enter your **Username** and **Password** in the text boxes provided.

The **Enable Certificate Authentication** box should be checked if your server requires certificate authentication. Enter the **Certificate File** name and **Password** in the text boxes provided.

The **Use Proxy Server** box should be checked if METCAST Client and the server are on opposite sides of a network firewall (a firewall is a system or group of systems that controls access to a set of networks). For data to pass through a firewall, a proxy server is usually required. A proxy server is a program, typically running on a firewall computer that can be configured to block external access while permitting users behind the firewall to gain access to Internet resources. The **HTTP Proxy** text box is used to enter the Internet Protocol (IP) address of your proxy server, and the **Port** box specifies the port to be used. Your System Administrator should have this information, if it is needed. The METCAST Client installation procedure will, in most cases, automatically sense your proxy setup and set these items for you.

The **Maximum Minutes to Retry Failed Data Retrieval** text box specifies the maximum length of time the program will continue trying to retrieve a set of data. If not successful after this length of time, the program will discontinue attempts to retrieve the data.

The **DPL** check box enables downloading of the **Dynamic Product List** for that server. The Dynamic Product List is a list of all products that are present on a server. Each time Metcast Client is started, and periodically thereafter, the DPL is downloaded to the PC running Metcast Client. To receive this list, the DPL checkbox must be checked.

The **Active** checkbox determines whether or not the server connection is “activated”. To communicate with a server, this box must be checked

The **Request Setup** button opens the dialog shown in Figure 23 below. This dialog is used to specify the Request Type (request method) for each Product Type available on the associated

Server. The Request Setup Dialog box is pre-loaded with default settings for each product type, which the user may change as necessary. Click the **Close** button, to save all user inputs. Once saved, the request type/intervals become the default for the server.

A Request Setup dialog box is also available for each data Area defined by the user, and is used to setup request types for the area. When the Area Request Setup is used, it overrides the Server Request type settings.

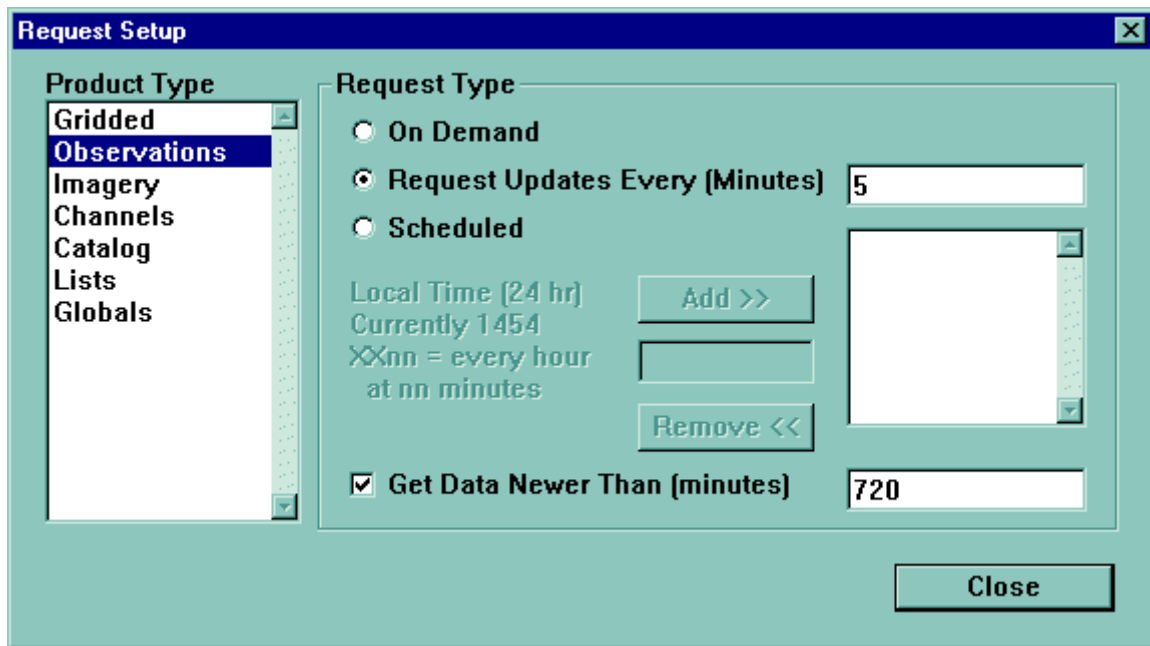


Figure 23. Request Setup Dialog

The list box at the left allows you to select the particular product type you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

- | | |
|--|--|
| On Demand | The retrieval is performed once, as soon as the area is scheduled, and not repeated. The term <i>scheduled</i> in this context is different than that used below to define retrievals at specific times. See section 5.7 for instructions on scheduling an area or list. |
| Request Updates Every (Minutes) | A retrieval is started when the area is scheduled. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval. |
| Scheduled | Retrievals are started at specified times. When this option is selected, the Add >> and << Remove buttons and the Local Time text box between them become active. Type a time into the Local Time text box and then |

click the **Add >>** button to add it to the list of times shown in the list box at the right. A time may be removed from the list by highlighting it and then clicking the **<< Remove** button. A retrieval will be started at each of the specified times.

The **Get Data Newer Than (Minutes)** checkbox and text box may be used to prevent the continuous downloading of old data. The default setting for Imagery and Gridded data is 720 minutes (12 hours), which means that only data less than 12 hours old will be downloaded. The default setting for Observation data is 90 minutes. This feature is enabled only when the **Scheduled** or **Request Updates Every (Minutes)** radio buttons are selected. The checkbox is permanently checked for **Observations** and **Imagery** data, however, the corresponding time displayed in the text window may be modified to any number of minutes greater than zero.

The **Close** button accepts your selections and closes the dialog.

The **OK** button in the Server Configuration dialog accepts the settings on the screen and exits the dialog. These settings will then be used until changed. The **Cancel** button exits the dialog without making any changes to the settings.

5.3 Defining, Selecting, and Managing Areas

This section deals with creating, selecting, and managing areas of interest. In order to retrieve data through METCAST, you must first tell it what geographic area you want to retrieve data for. To do this, you set up areas of interest. For each area you have defined, the METCAST Requestor creates a file tree that contains information about the area, a “thumbnail” map of the area for its icon, the list of products you desire to retrieve for that area, and information about the scheduling of retrievals for that area. The file tree will also contain the data retrieved for the area.

5.3.1 Creating an Area

To begin creating a new area, either click on the **Create Area** icon in the toolbar or pull down the **Area/List** menu and select **Create News Area...** This opens the Choose Area Type dialog shown in Figure 24. The **North Lambert** and **South Lambert** buttons are presently “grayed out” and non functional, as this map projection is still under development.

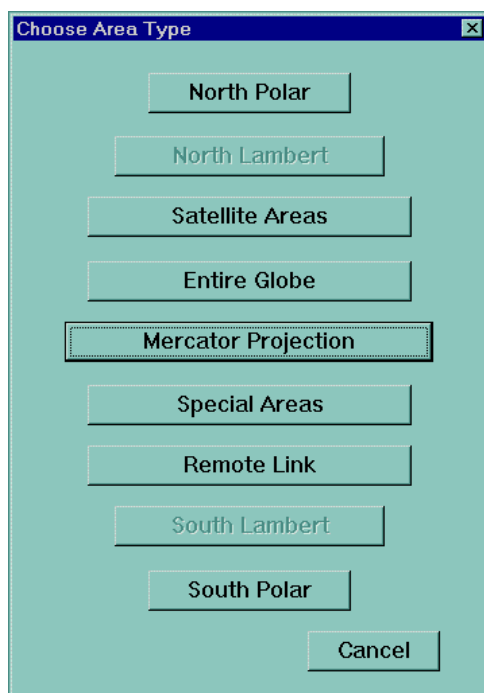


Figure 24. The Choose Area Type Dialog

The available area types are:

North Polar An area in polar stereographic projection centered at the North Pole. Clicking this button opens the North Polar area definition map shown in Figure 25.

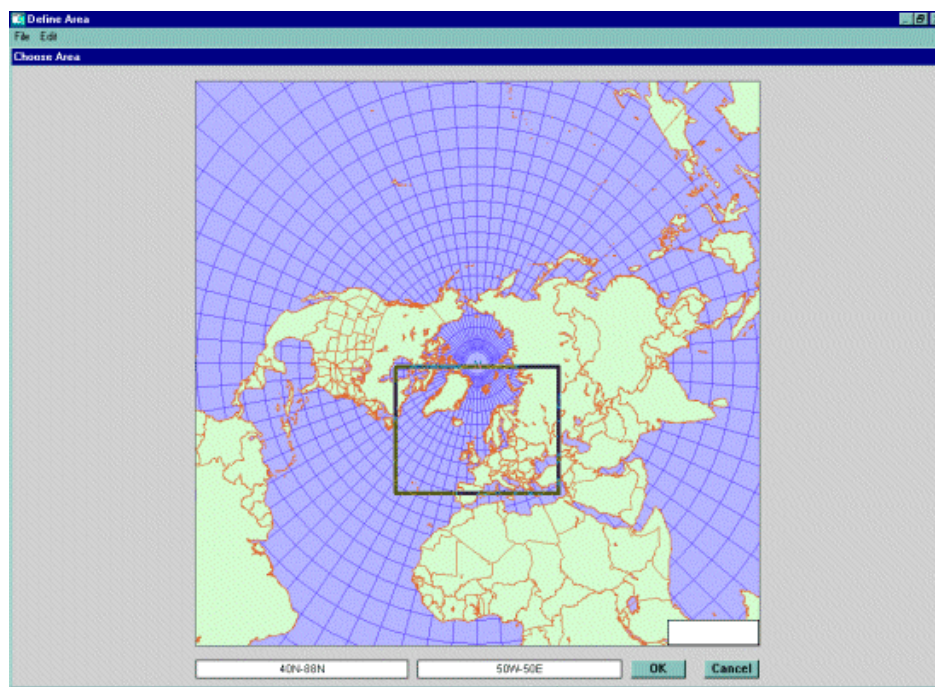


Figure 25. North Polar Area Definition Map

In the North and South Polar and Mercator selection maps, a selection box is outlined in black. If you place the cursor over an edge of this box, the cursor changes to a diagonal 2-headed arrow, and you can reshape the box by pressing and holding either the left or right mouse button while you move the mouse to “drag” the edge. As you do, the readouts below the map will change to show you the extent of the geographic area covered by the box. The left-hand readout shows the latitude range covered by the box and the right-hand readout shows the longitude range. The display box in the lower right shows the coordinates of the cursor when it is placed over a map.

If you place the cursor inside the box, the cursor changes to a 4-headed arrow, and you can press and hold either the left or right mouse button and then drag the box to a new location (In the North and South Polar Areas, this also rotates the box).

For all Area selections, the **Cancel** button exits the map or selection dialog without creating a new area. When you click on the **OK** button, the Preview Area map opens showing the area you have just defined. A Preview Area map is shown in Figure 26 below.

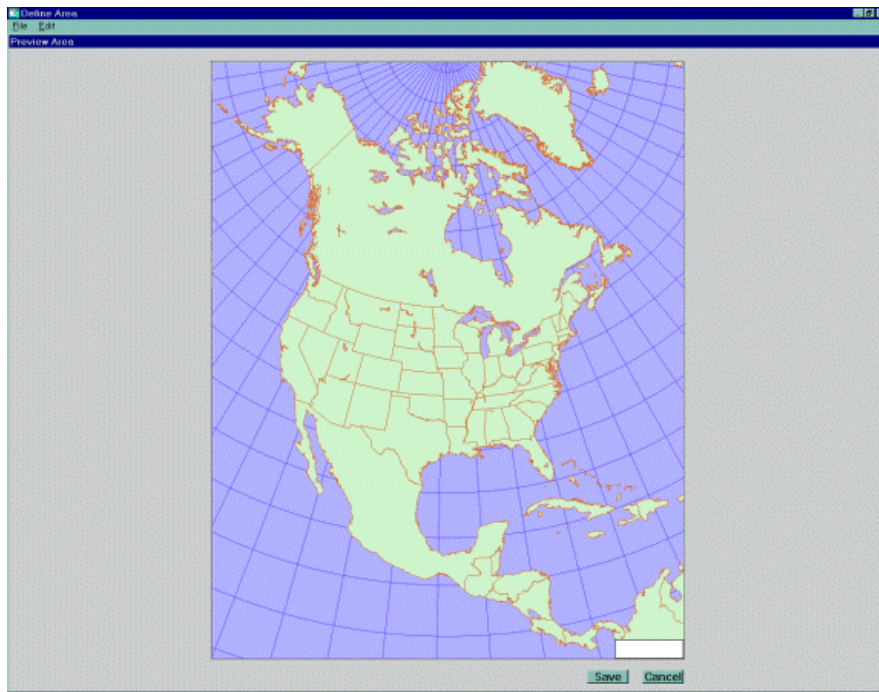


Figure 26. Preview Area Map

Note: When the Preview Area Map displays a Mercator, Special Area or Satellite Area map, the area being displayed may be further reduced in size by clicking on, and then dragging a border as described above. The newly resized area may then be repositioned within the original Preview Map Area. For other area types, this box simply shows a preview of the area you have defined or selected, with no further resizing options.

Once the area is properly defined, click the **Save** button to save the area definition. This opens the **Name An Area** dialog shown in Figure 27 below.

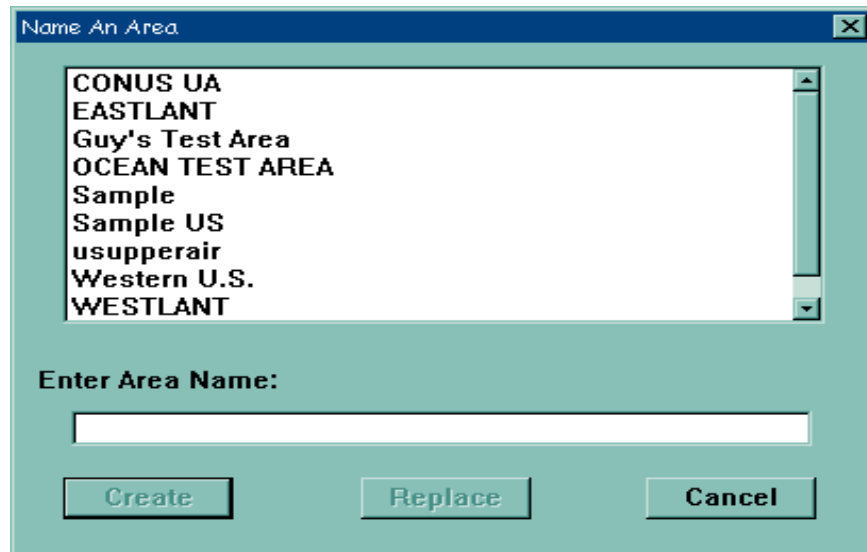


Figure 27. Name An Area Dialog

The list box at the top of the Name An Area dialog box shows existing area names. The **Enter Area Name:** box at the bottom allows you to enter a new area name. You can also overwrite an existing area definition by clicking on its name in the list box, which will write the name in the Enter Area Name box.

If you entered a new area name, the **Create** button will be activated, and you can click on it to create the new area definition and its file tree. If you entered an existing area name, or clicked on an area in the list box to enter its name, the **Replace** button will be activated, and you can click on it to save the revised area definition.



If you Replace an area, any existing data for that area will be removed from the area directory. This prevents problems that would arise from trying to display data created with an older area definition.

As in other dialogs, the **Cancel** button exits the Create Area procedure without saving the new area.

South Polar An area in polar stereographic projection centered at the South Pole. Clicking this button opens the South Polar area definition map shown in Figure 28. The area selection box functions exactly the same as that described in the [North Polar Area](#) section above.

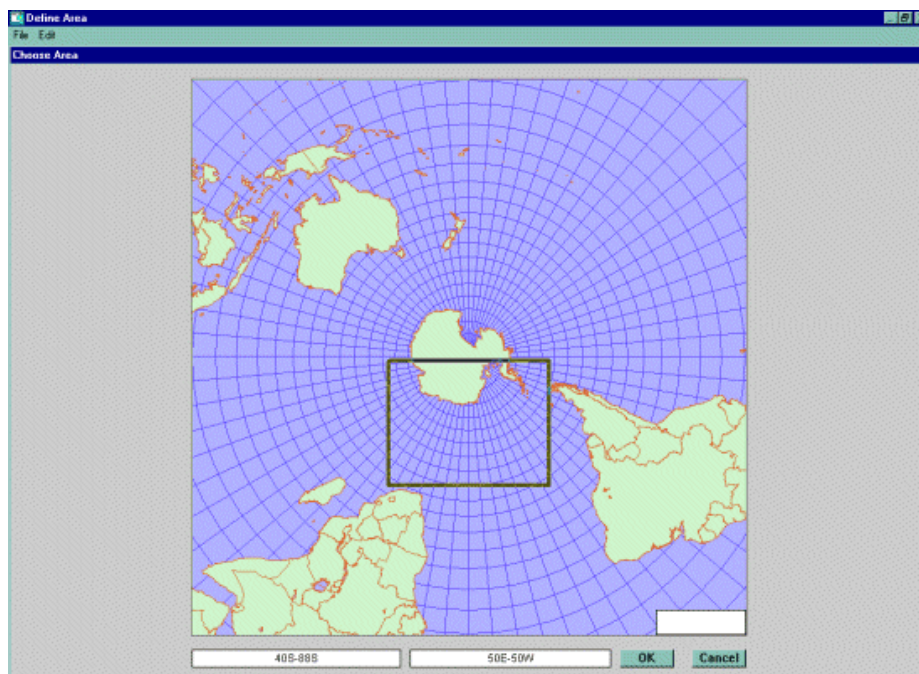


Figure 28. South Polar Area Definition Map

Satellite Areas Click this button to select from a pre-defined list of areas commonly used for satellite imagery. **You MUST use a satellite area if you want to retrieve satellite imagery.** A portion of this map is shown below in Figure 29. The full map covers the entire globe.

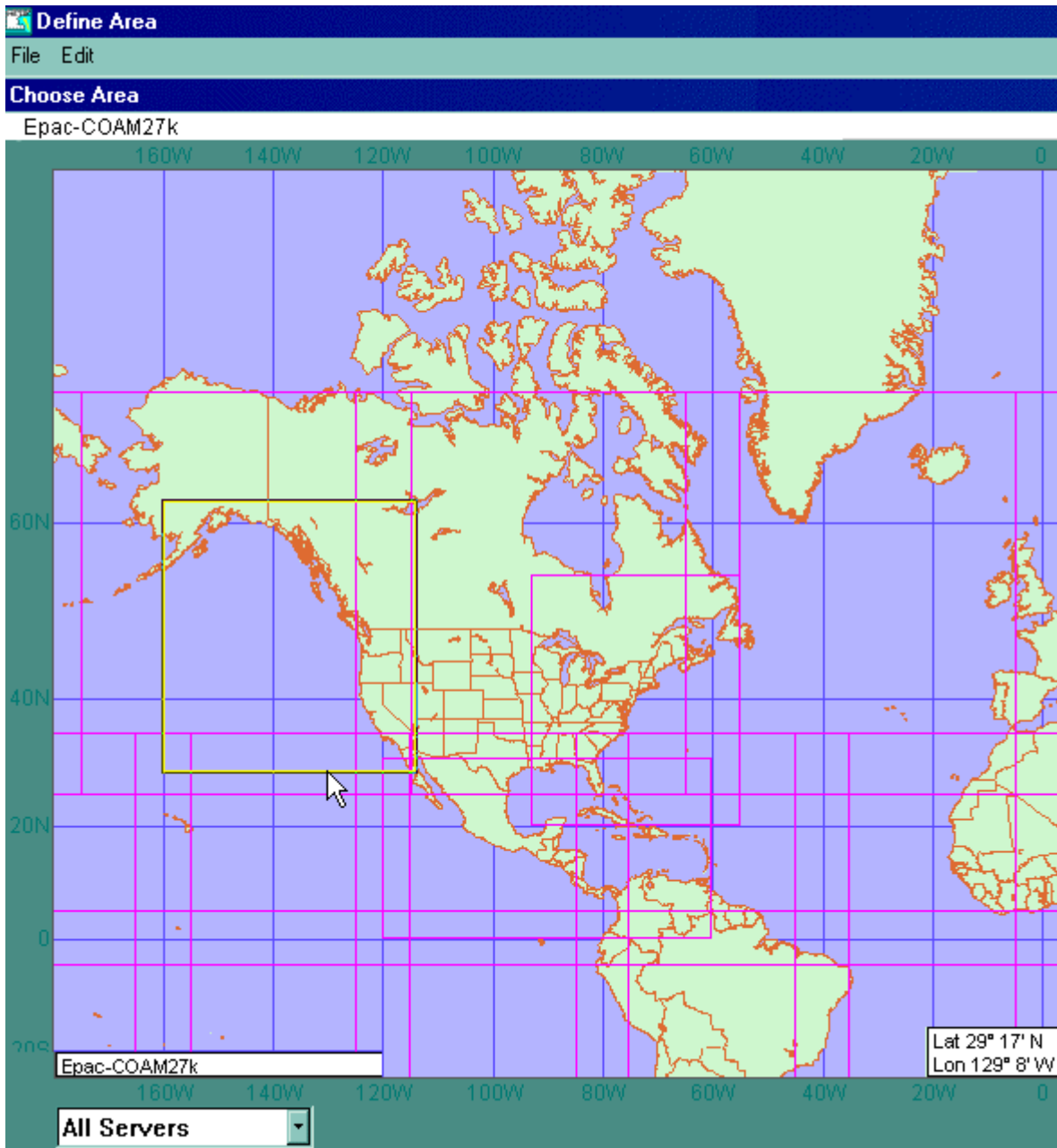


Figure 29. Satellite Areas Selection Map

Defined satellite areas are shown as magenta colored boxes. As the cursor passes over an area boundary, the boundary will become highlighted in yellow and the name of the highlighted area will appear in a text box in the lower left corner of the dialog. To select an area, click on or within an area boundary while it is highlighted yellow. The selected area border will darken, and the area name will appear in the upper left corner of the dialog. Click the **OK** button to accept this area, or continue browsing. Areas will continue to be highlighted as the cursor moves across the area border. If a different area is desired, click on or within the border while the area is highlighted and it will replace your previous selection. When the desired area is selected, click the **OK** button to close the dialog.

The Preview Area map dialog box will open, showing the area you have just defined. Click the SAVE button to save the area and close the dialog. The Name An Area dialog shown in Figure 27 will open. Enter an area name then click the Create button to save the area and close the dialog.

A list of the available network servers is displayed in the popup menu located at the lower left corner of the satellite Area Selection Map. This menu box is used to select server(s) as a data source for the satellite area. The user may select either an **individual server**, or **All Servers** by selecting the appropriate menu item.

Please note that all network servers will appear within the satellite area Servers menu list, regardless of whether the server is "active". To download data from a server, it must be active. To activate a server, click on the pull down Options menu button in the Metcast Requestor and select Servers. Next, highlight the desired server and click on the Edit button. A server configuration dialog box will open. Ensure that the Active checkbox located in the upper right corner is checked. See the Setting Time Zone and Data Sources for additional information about configuring a server connection.

The readout at the lower right displays the coordinates of the cursor (in lat/lon) when it is positioned over the map.

The **Cancel** button exits without defining a new area.

- | | |
|----------------------------|---|
| Entire Globe Area | Selects the entire globe as a defined area. Sub area selection is not available; therefore a preview window is not displayed. The Name An Area dialog box (Figure 27) will appear immediately after selecting the Entire Globe Area button. |
| Mercator Projection | Defines areas on the standard Mercator projection. This projection is commonly used for equatorial and mid-latitude areas. Clicking this button opens the Mercator area definition map as shown in Figure 30. |

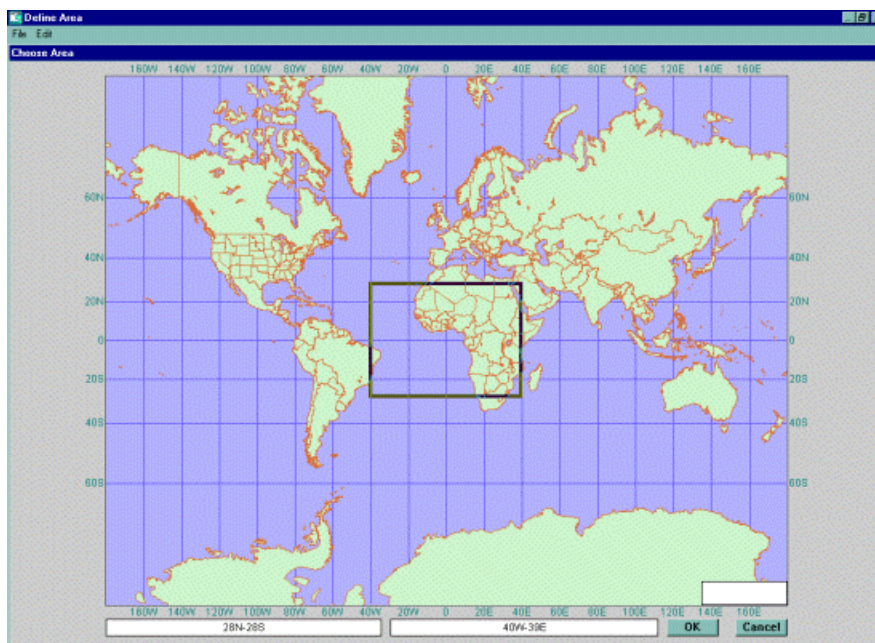


Figure 30. Mercator Projection Area Definition Map

The Mercator Projection - Area Selection box operates similarly to the Polar Area selection boxes. See the [North Polar](#) area for instruction on use of the selection box.

Special Areas

Click on the Special Areas button to open the Special Areas selection map shown in Figure 31. Select from the predefined list of special areas that are used to display high-resolution regional model output such as the MM5 or COAMPS. You **MUST** use a special area if you want to retrieve this regional model data. A portion of the dialog is shown below. The full dialog covers the entire globe

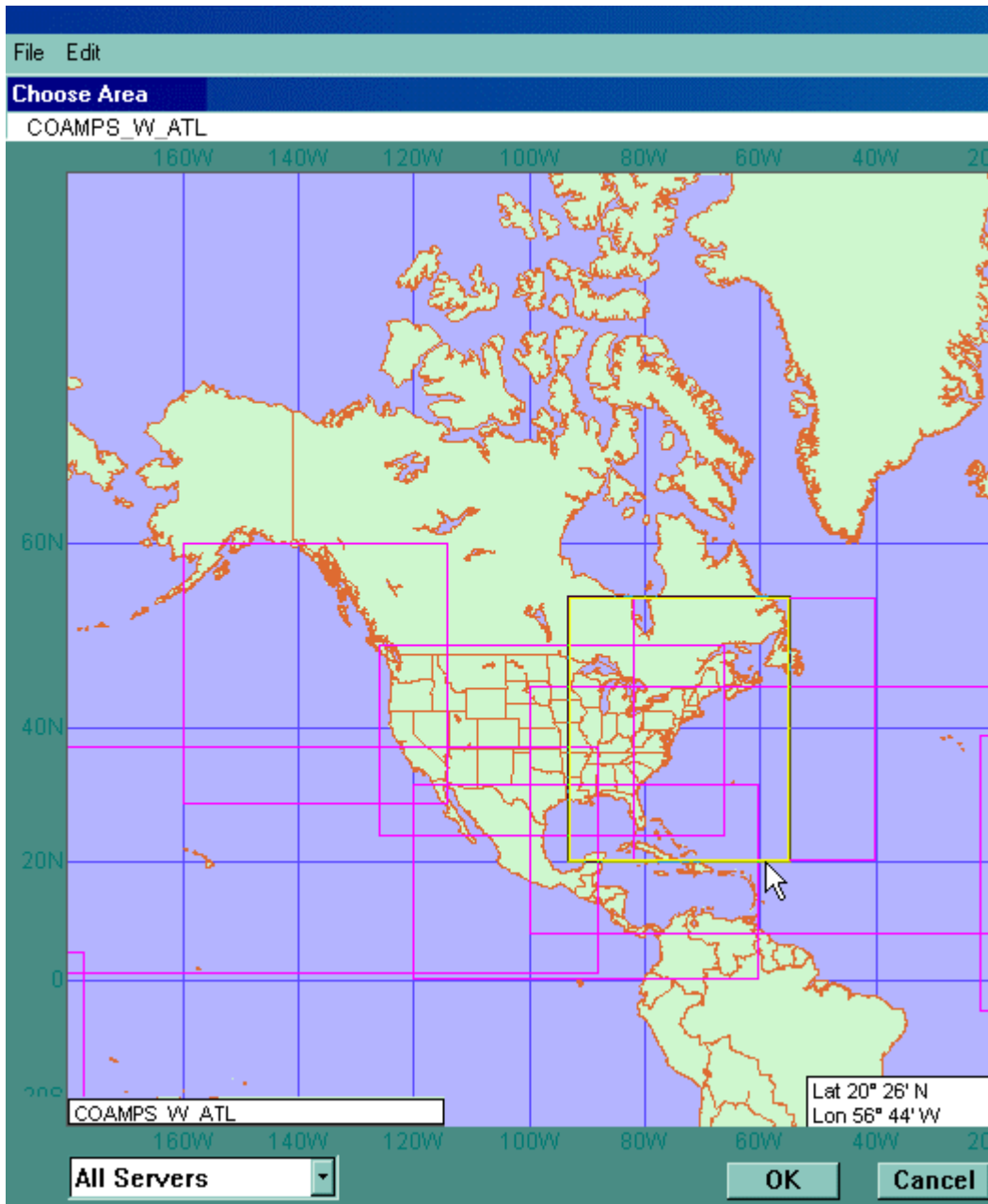


Figure 31. Special Areas Selection Map

Defined Special areas are shown as magenta colored boxes. As the cursor passes over an area boundary, the boundary will become highlighted in yellow and the name of the highlighted area will appear in a text box in the lower left corner of the dialog. To select an area, click on or within an area boundary while it is highlighted yellow. The selected area border will darken, and the area name will appear in the upper left corner of the dialog. Click the **OK** button to accept this area, or continue browsing. Areas will continue to be highlighted as the cursor moves across the area border. If a different area is desired, click on or within the border while the area is highlighted and it will replace your previous selection. When the desired area is selected, click the **OK** button to close the dialog.

The Preview Area map dialog box will open, showing the area you have just defined. Click the **SAVE** button to save the area and close the dialog. The **Name An Area** dialog shown in Figure 27 will open. Enter an area name then click the Create button to save the area and close the dialog.

A list of the available network servers is displayed in the popup menu located at the lower left corner of the Special Area Selection Map. This menu box is used to select server(s) as a data source for the Special area. The user may select either an **individual server**, or **All Servers** by selecting the appropriate menu item.

Please note that all network servers will appear within the Special area Servers menu list, regardless of whether the server is "active". To download data from a server, it must be active. To activate a server, click on the pull down Options menu button in the Metcast Requestor and select Servers. Next, highlight the desired server and click on the Edit button. A server configuration dialog box will open. Ensure that the Active checkbox located in the upper right corner is checked. See the Setting Time Zone and Data Sources for additional information about configuring a server connection.

The readout at the lower right displays the coordinates of the cursor (in lat/lon) when it is positioned over the map.

The **Cancel** button exits without defining a new area.

Remote Link

Remote Link Areas provide the capability to access area data that has been downloaded on a remote computer running Metcast Client. Prior to accessing Remote areas, both the local and the remote computers must be configured properly. See **Section 4.5** for Remote Link setup instruction.

Once the remote link has been configured, the available Remote areas may be selected as described below. When the **Remote Link** button is selected, the Remote Area Selection dialog box shown in Figure 32 will appear.

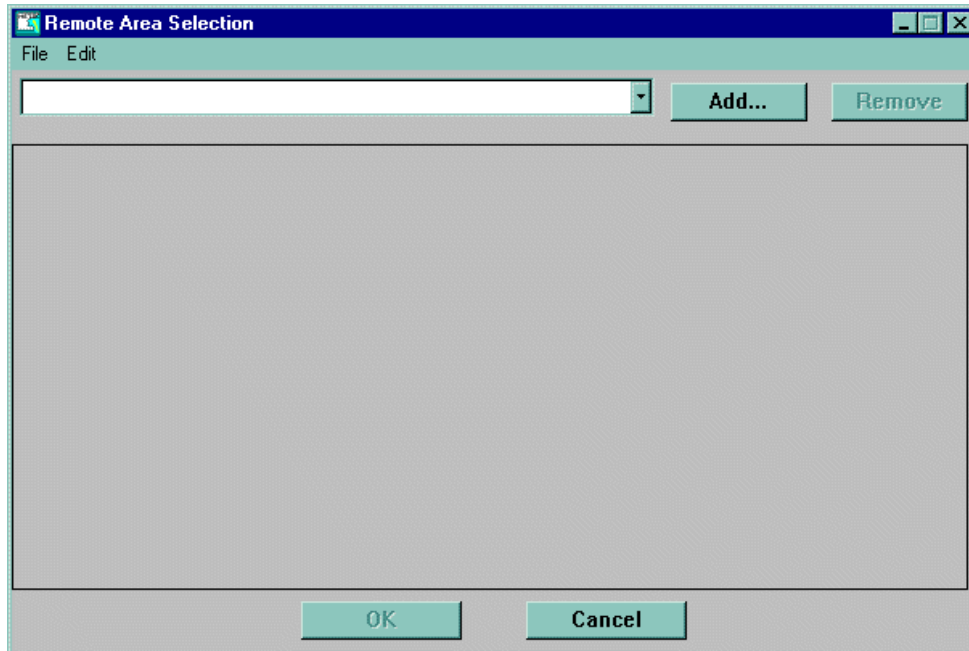


Figure 32. Remote Area Selection Dialog

Click on the **Add...** button and a **Select Full Path Dialog box** (Figure 33) will appear.

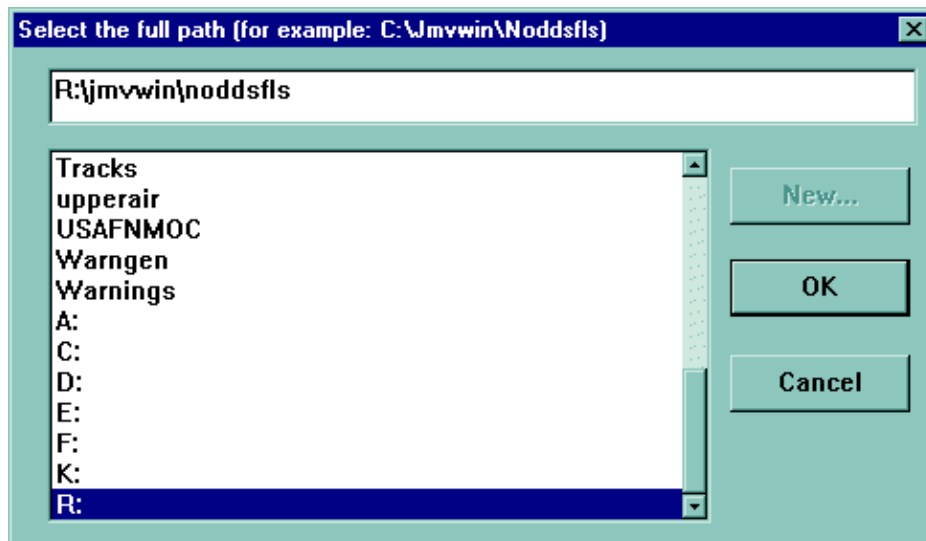


Figure 33. Select Full Path Dialog, showing available drive paths.

In the network drive list window (the large center window), navigate to the network drive letter that has been mapped to the remote computer (see map network drive instructions in Section 4.5 - 2) and click on it. This will select the drive letter to the text window at the top of the dialog box. In the text window, type the complete path to the noddsfls directory on the remote computer running Metcast Client. In the dialog box shown in Figure 33 above, “**jmvwin\noddsfls**” was typed after the mapped drive letter **R:** was selected. When finished, click on the **OK** button.

The Select Full Path Dialog box will close and the Remote Area Selection Dialog (Figure 34) will then display all of the remote areas that area available on the mapped drive.

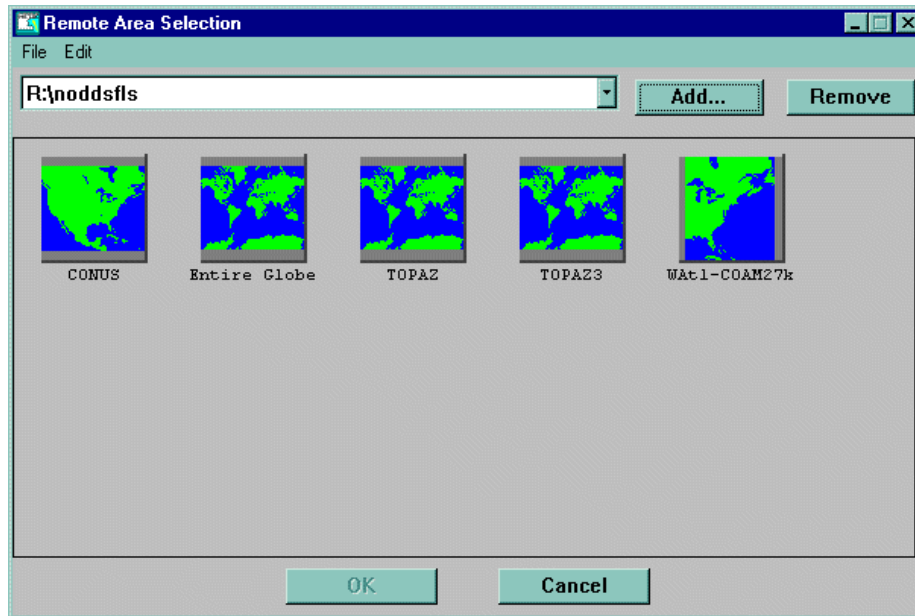


Figure 34. Remote Area Selection Dialog Showing Available Areas.

Any area listed within the Remote Area Selection Dialog box may now be selected by clicking on it. A red border will appear around the area when it is selected. To select a contiguous set of areas, highlight the first area, then press and hold the **Shift** key while clicking on the last area in the set. To select multiple individual areas, select the first, then press and hold the **Ctrl** key while selecting the others. After all desired Remote areas have been selected, click on the OK button. The selected Remote areas will then be displayed within the Metcast Requestor Window. Note that all Remote area Icons will contain a red “Remote” banner to differentiate them from the areas that are local on a given machine (as shown in Figure 35 below.)

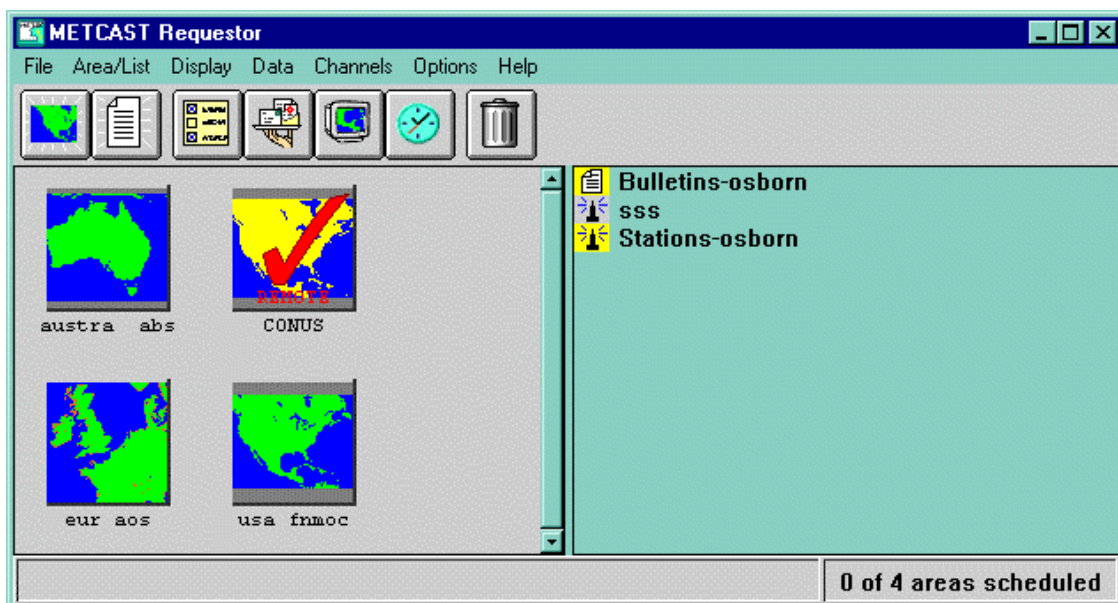
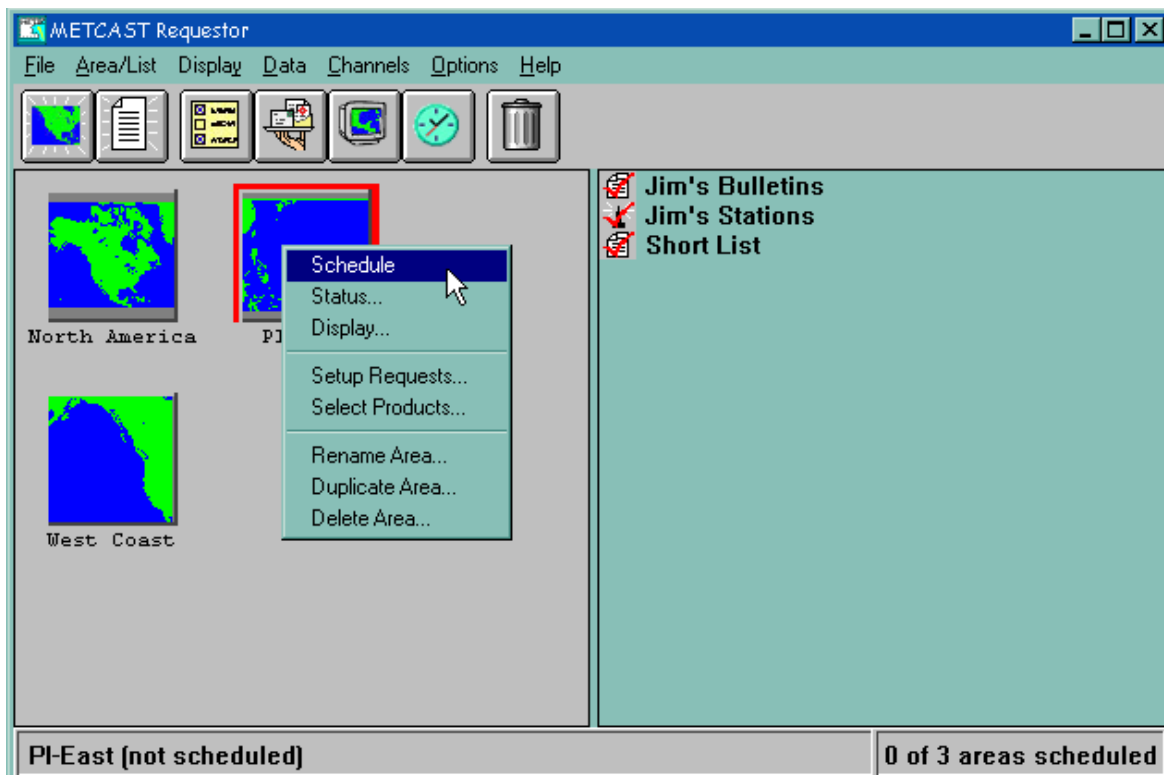


Figure 35. Metcast Requestor, with one Remote Area Icon.

5.3.2 Selecting an Area

To select any defined area, just click on its icon in the work area. The icon will then be displayed with a red outline. Only one area may be selected at a time. The actions in the **Area/List** menu affect the selected area only. You can also simultaneously select an area and open its context menu (a menu of actions to apply to the area) by right-clicking on the area icon. Figure 36 shows the context menu for an area.

**Figure 36. Area Icon With Context Menu**

5.3.3 Deleting an Area

If you no longer need one of the defined areas, you can delete the area definition and all of the area's data files. This operation is permanent and all information for the deleted area will be lost. The area to be deleted must not be scheduled. For instructions to schedule or unschedule an area see Section 5.7. To delete an area, use one of the following methods:

1. Click on the area icon to highlight it, then click on the **Delete Area** (trash can) icon in the toolbar.

2. Click on the area icon to highlight it, pull down the **Area/List** menu, and select **Delete Area...**
3. Right-click on the area icon to open the context menu, and select **Delete Area...**

Any of these actions will open the confirmation dialog shown in Figure 37.

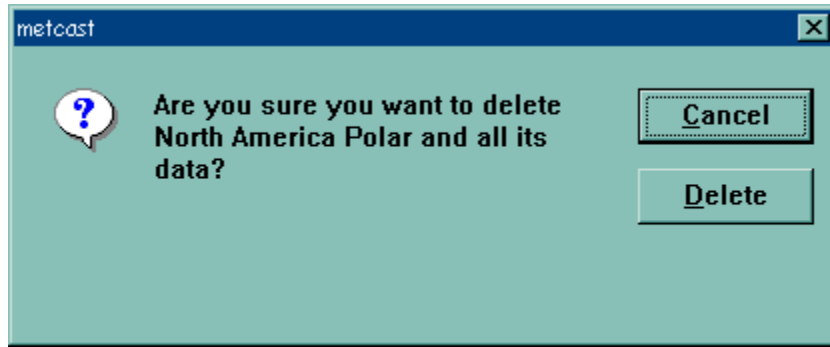


Figure 37. Delete Area Confirmation Dialog

Clicking the **Delete** button permanently deletes the area and its data. Clicking the **Cancel** button exits the Delete Area process without actually deleting the area.

5.3.4 Renaming an Area

You can rename an area without disturbing any of the data in the area's file tree (that is, anything you downloaded under the old area name will still remain available under the new name). To rename an area, first ensure that the area is not scheduled, then use either of the following two methods:

1. Click on the area icon to highlight it, pull down the **Area/List** menu, and select **Rename Area...**
2. Right-click on the area icon to open the context menu, and select **Rename Area...**

Any of these actions will open the JMV Change Area dialog shown in Figure 38.

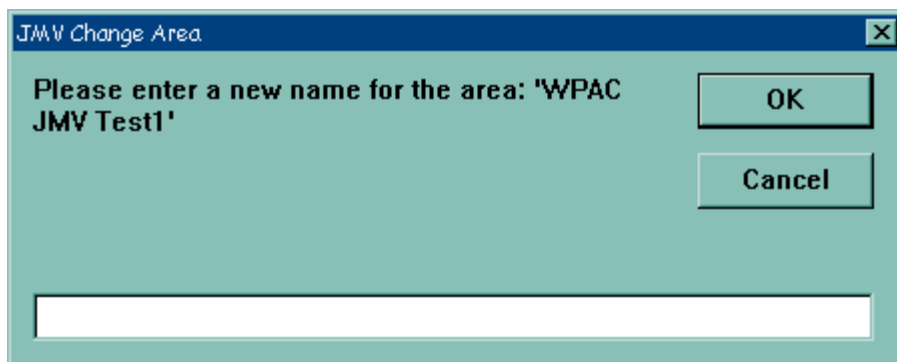


Figure 38. JMV Change Area Dialog

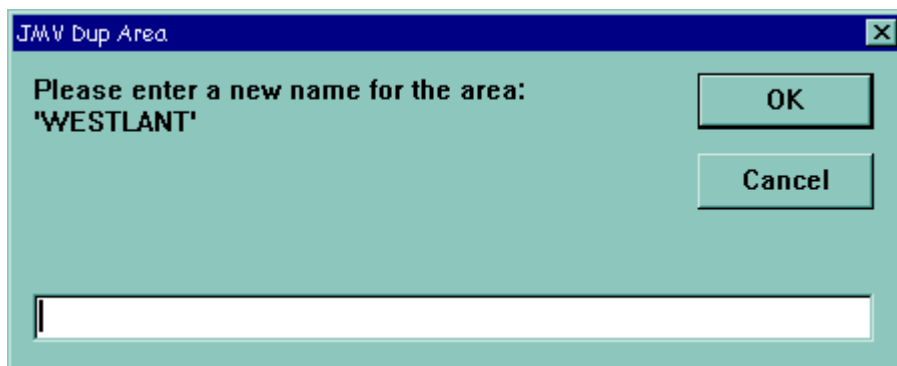
Type the new area name in the box at the bottom and click the **OK** button to rename the area. Clicking the **Cancel** button exits without renaming the area.

5.3.5 Duplicating an Area

You can make a copy of an area under a new name (this copies the area definitions and all of the data downloaded for the area). To duplicate an area, first ensure that the area is not scheduled, then use either of the following 2 methods:

1. Click on any area's icon to highlight it. Pull down the **Area/List** menu and select **Duplicate Area...**
2. Right-click on any area's icon to open its context menu. Select **Duplicate Area...**

Either of these actions opens the Duplicate Area dialog shown in Figure 39.

**Figure 39. Duplicate Area Dialog**

Type a new area name into the text input box, and then click on the **OK** button to duplicate the area. Clicking the **Cancel** button exits without duplicating the area.

5.3.6 Cleaning an Area

All data products previously downloaded for an Area may be removed from the Area directories by using the **Clean** function. The Clean function will delete all of the downloaded data files (Grib, Text and Imagery files), but will leave intact all of the Area configuration files (Request settings, Product requested, etc).

To Clean an Area, first ensure that the Area is not scheduled, then follow either of the two steps below to open the Clean Area dialog box shown in Figure 40 .

1. Click on any area's icon to highlight it. Pull down the **Area/List** menu button and select **Clean...**, or
2. Right-click on any area's icon to open its context menu, then select **Clean...**

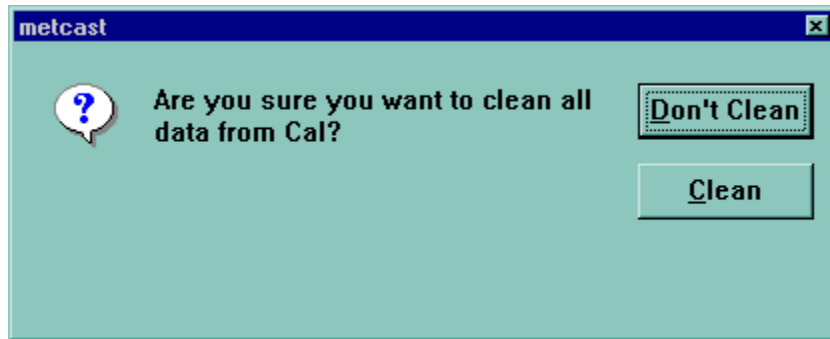


Figure 40 Clean Area Dialog.

Click the **Clean** button to Clean the Area. Click on the **Don't Clean** button to close the dialog box without cleaning the Area.

5.4 Selecting Products for Retrieval

Once an area is set up, you must tell METCAST Client what products to retrieve for that area. You can do this by:

1. Clicking on the area's icon to highlight it and clicking on the **Assign Products** button in the toolbar.
2. Clicking on the area's icon to highlight it, pulling down the **Area/List** menu, and selecting **Select Products...**
3. Right-clicking on the area's icon to open its context menu, then selecting **Select Products...**

Any of these actions will open the Product Selection dialog for the selected area, as shown in Figure 41 below. Note that the area name is displayed at the top of the dialog box.

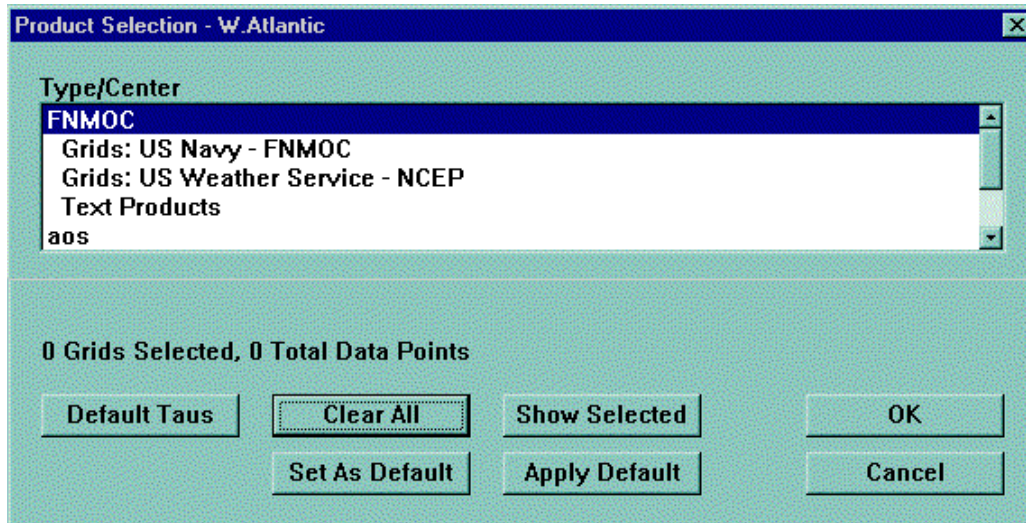


Figure 41 Product Selection Dialog

The initial Product Selection Dialog will appear with only the **Type/Center** list box open. This box displays a list of Centers and the product types available from each Center. The term “Center” refers to a Server from which data will be requested. All active servers will appear in this scrollable list box. In Figure 41 above, “FNMOC” and “aos” are the active Centers/Servers that were configured as described in Section 5.2 – Server Setup. Click on a product type listed beneath a Center, to activate the other list boxes in the Product Selection dialog. These will appear as shown in Figure 42 below.

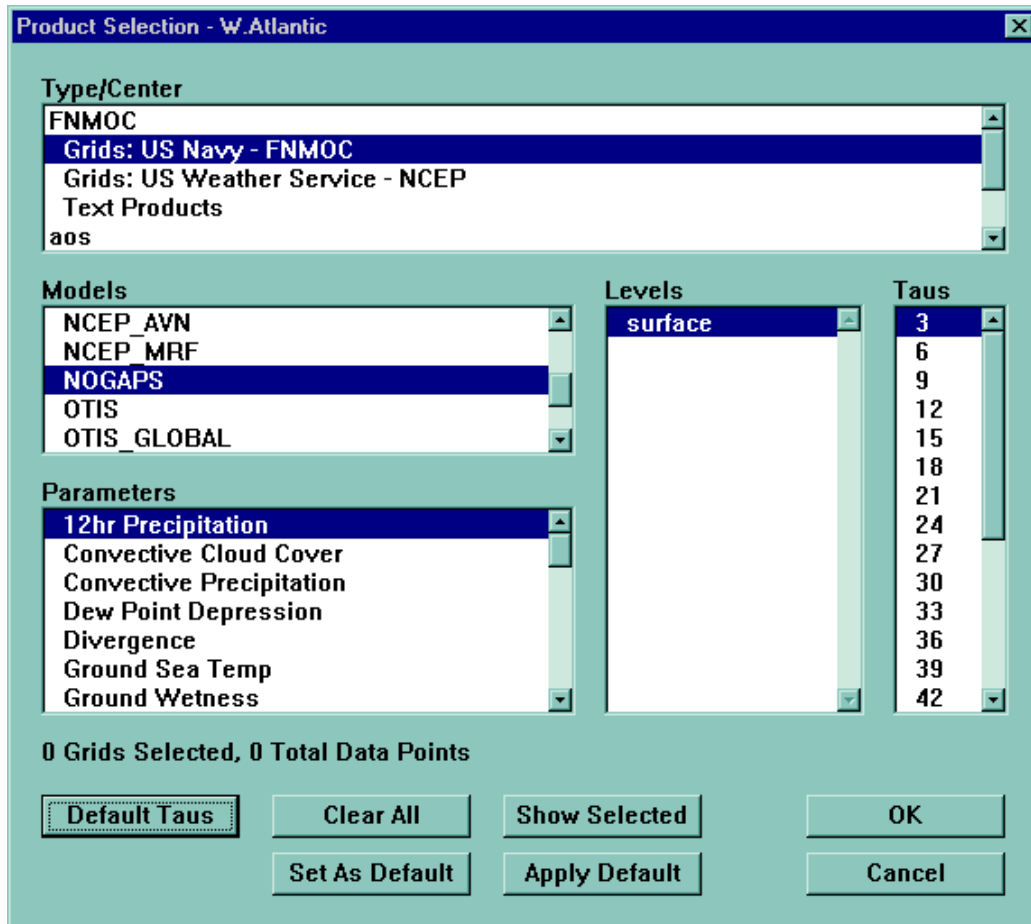


Figure 42. Product Selection Dialog - Open

The dialog now shows all of the products available from the currently selected Center and product Type. In the example above, there are three product types available from the FNMOC Center - Grids from FNMOC, Grids from National Center for Environmental Prediction (NCEP), and Text Products. **The Text Products type includes observations (METAR/SPECI), Upper Air Reports (UAR), SYNSEA (sea synoptic reports), BTSC (Bathymetry Reports) and PIREPS (Pilot Reports), as well as TAF, SIGMET, AIRMET and jots-w (high wind/seas) forecasts.** The four list boxes below the Type/Center list are broken down as follows:

- **Models** shows the models available for the selected product type and center.
- **Parameters** shows the parameters available for the selected product type/center and model.
- **Levels** shows the levels available for the selected product type/center, Model, and Parameter.
- **Taus** shows the forecast hours available for the selected product type/center, Model, Parameter, and Level. The forecast hour is the time after the base (analysis) time at which the forecast is valid. For example, tau 24 identifies a forecast valid 24 hours after the analysis on which it is based.

To select a particular product, select the Type/Center desired, then select the Model, then the Parameter, then the Level. Finally, click twice on each desired forecast hour desired. The

program inserts an asterisk next to each selected tau, and the items higher in the list (Model/Area, Product, Level) are also marked with an asterisk.

You can simplify the product/tau selection process considerably by clicking on the **Default Taus** button and specifying the default taus to apply to all products selected. The Default Taus button opens the **Set Default Taus** dialog box shown in Figure 43.

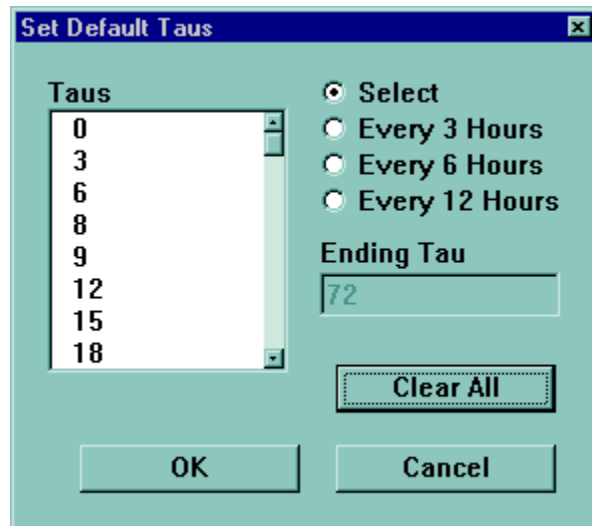


Figure 43. Set Default Taus Dialog

There are two methods to choose default taus. The first method is performed by clicking on the **Select** radio button to activate the Taus List, and then double clicking on the desired taus within the list box. As each tau is selected to be a default, an asterisk will appear beside it. All available taus (out to 384 hours) are displayed in the scrollable Taus List when the Select radio button is chosen.

The second method entails clicking on the **Every 3 Hours**, the **Every 6 Hours**, or the **Every 12 Hours** radio buttons. This will automatically select the appropriate default taus, out to the Ending Tau, which is displayed in the **Ending Tau** box. The default ending tau is 72 hours. After clicking on either of these three radio buttons, the Ending Tau box is activated, and the user may input a different ending tau, up to the maximum tau of 384 hours. As soon as a new ending tau is typed into the Ending Taus box, the new set of default taus will be automatically selected and denoted with asterisks in the Taus List.

To deselect all default taus, click on the **Clear All** button.

To accept your selections and exit, click the **OK** button. To exit without making any selections permanent, click the **Cancel** button.

When you have selected Default Taus, the Product Selection dialog changes to show a ">" next to each default tau, as shown in Figure 44.

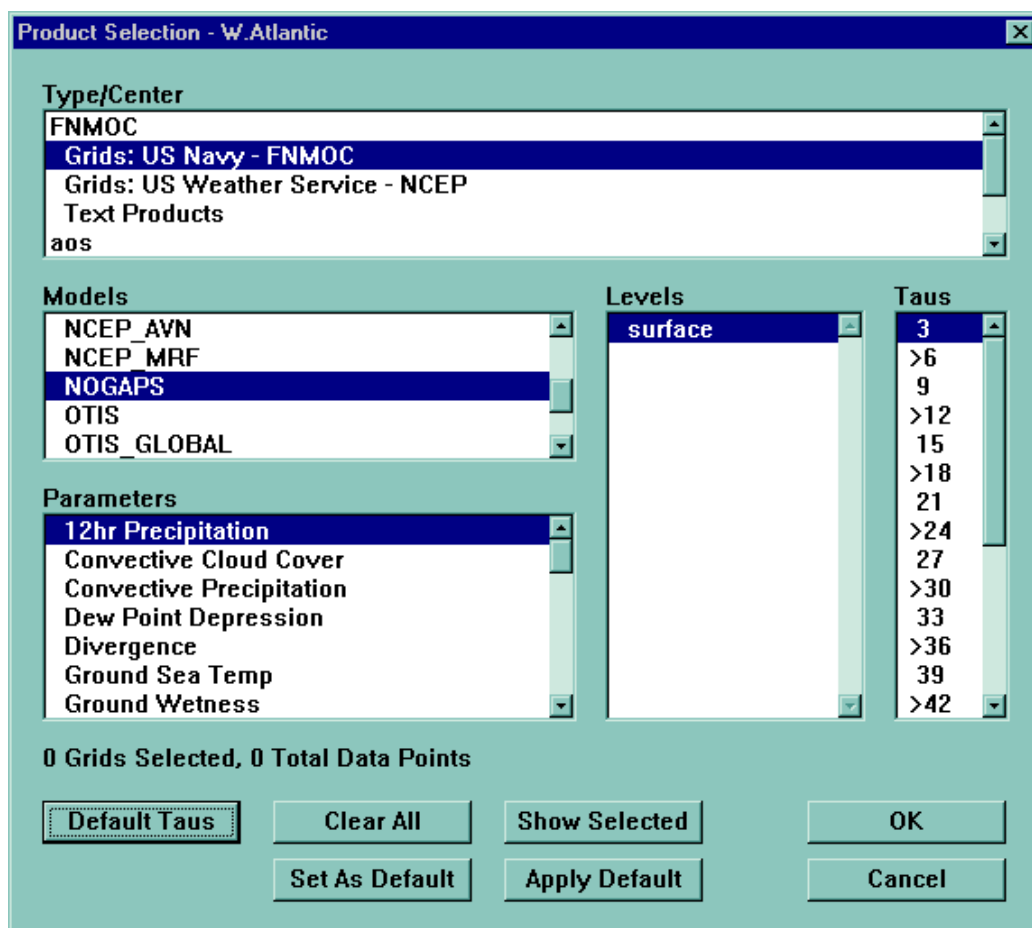


Figure 44. Product Selection Dialog Showing Default Taus

To select products with the default taus, simply select the Type/Center, Model, Parameter (product), and then double-click on the Level. The program then inserts an asterisk next to each of the default taus, indicating that it is selected, as shown in Figure 45.

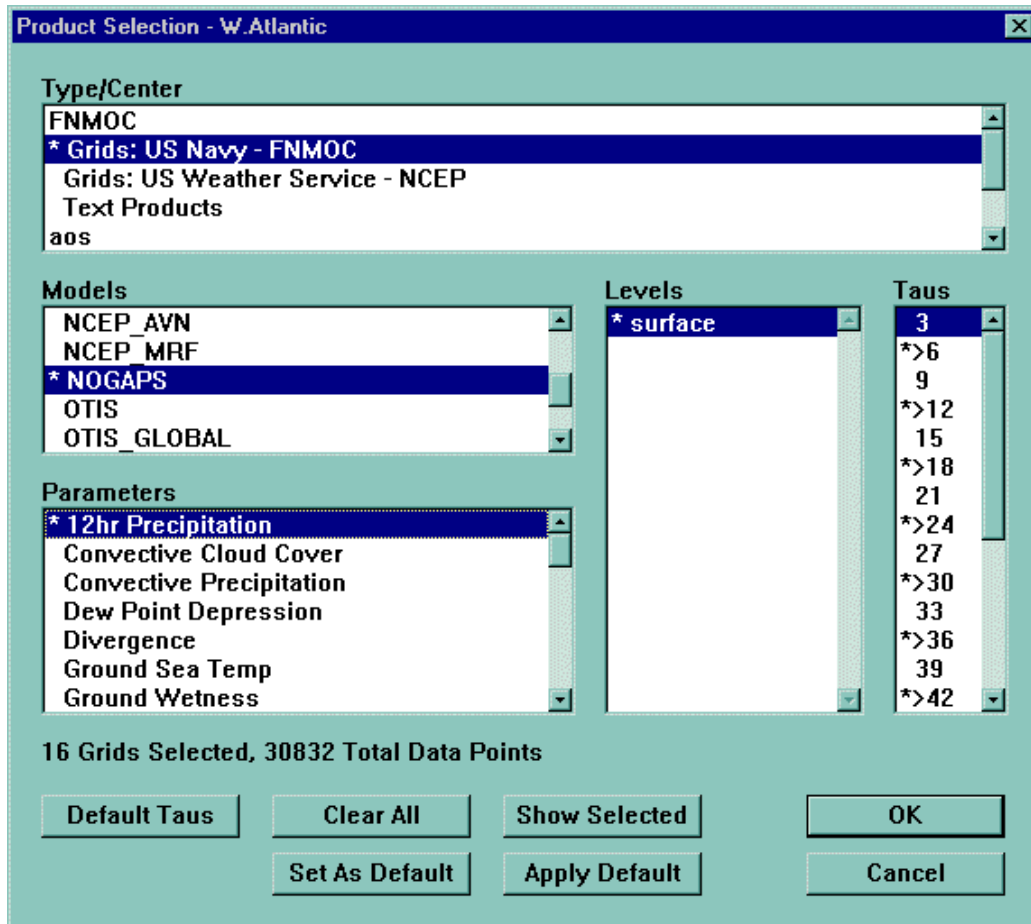


Figure 45. Product Selection Dialog With Default Taus Selected

You can then deselect any undesired taus by double-clicking on them. Likewise, you can select additional taus by double-clicking on them.

Note that as products are selected, the number of associated Grids Selected and Total Data Points are displayed in the lower left hand portion of the Product Selection dialog box. This information is provided to help the user determine how much data is being requested. To roughly estimate the size of the requested download (in bytes), double the number of Total Data Points. Using the example in Figure 45 above, Total Data Points of 30,832 multiplied by 2 equals 61,664 bytes. Approximately 62 KB of data will be downloaded.

The **Clear All** button clears all of your selections.

The **Show Selected** button opens the Selected Products list, shown in Figure 46.

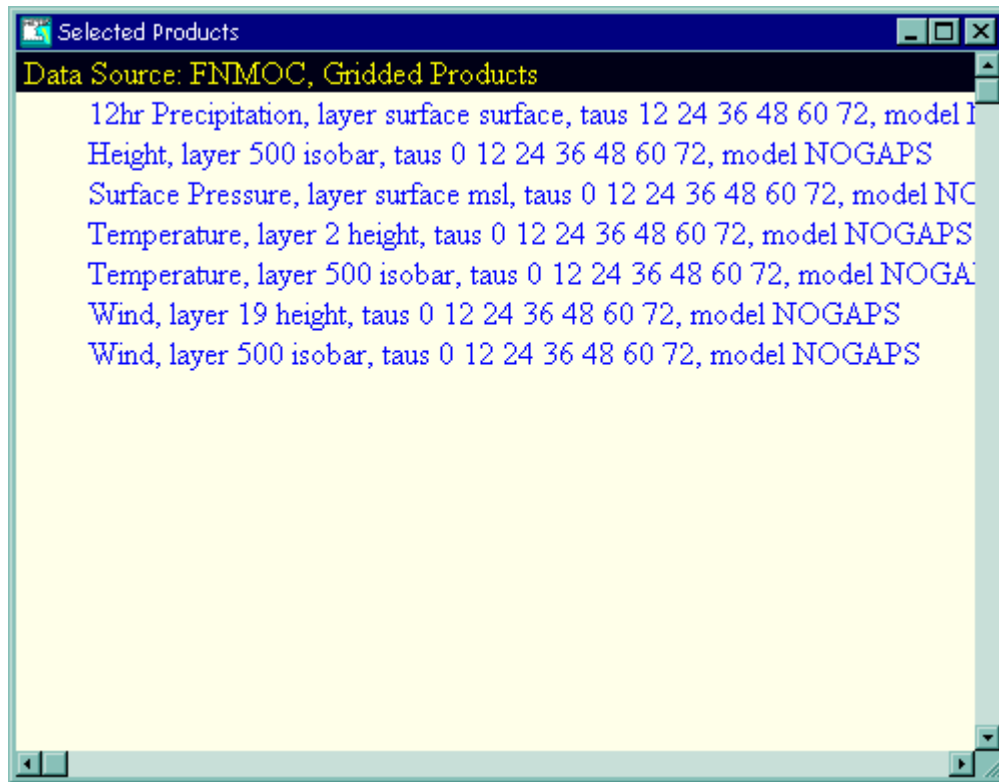


Figure 46. Selected Products Dialog

This list shows all of the products you have selected so far. To close it, click the **Close** icon in the upper right corner.

The **Set As Default** button saves all of the currently selected products (Centers, Models, Parameters, Levels, and Taus) as a **“Default” Product List**, which may be used to quickly select products for a newly created area. It is important to note that the Default Product List works best with global models (i.e. NOGAPS, MRF) and Text data (i.e. METAR, TAF), account their product naming conventions are consistent for all areas of the globe. Regional model (i.e. COAMPS) and Satellite products should be used cautiously in a Default Product List. Each Regional model area and Satellite area has a discrete naming convention that prevents its use in a different regional or satellite area. However, regional model and satellite products can be used in a Default Product list if the new area using the default list is a subset of the initial area. That is, the new area must lie completely within the initial Regional model area or Satellite area that was used to create the Default Product List.

The **Apply Default** button, applies the default product list to an area. Once a default product list is defined (using the Set As Default button), it will be automatically applied to all new areas. If the default product list is not desired in a new area, simply click on the Clear All button prior to making new selections in the new area. When the Apply Default button is used in an existing area, all previously selected products will be overwritten with the default selections.

The **OK** button in the Product Selection dialog accepts your selections and closes the dialog.

The **Cancel** button closes the dialog without making any changes to the product selections for the area.

5.5 Setting Up Retrievals

Once you have defined an area and the set of products to retrieve for that area, you can tell METCAST Client when and how often to retrieve each product type. To start the process, either:

1. Click on the area's icon to highlight it, pull down the **Area/List** menu, and select **Setup Requests...**, or
2. Right-click on the area's icon to open its context menu, and select **Setup Requests**.

Either of these actions will open the Area Properties dialog, shown in Figure 47.

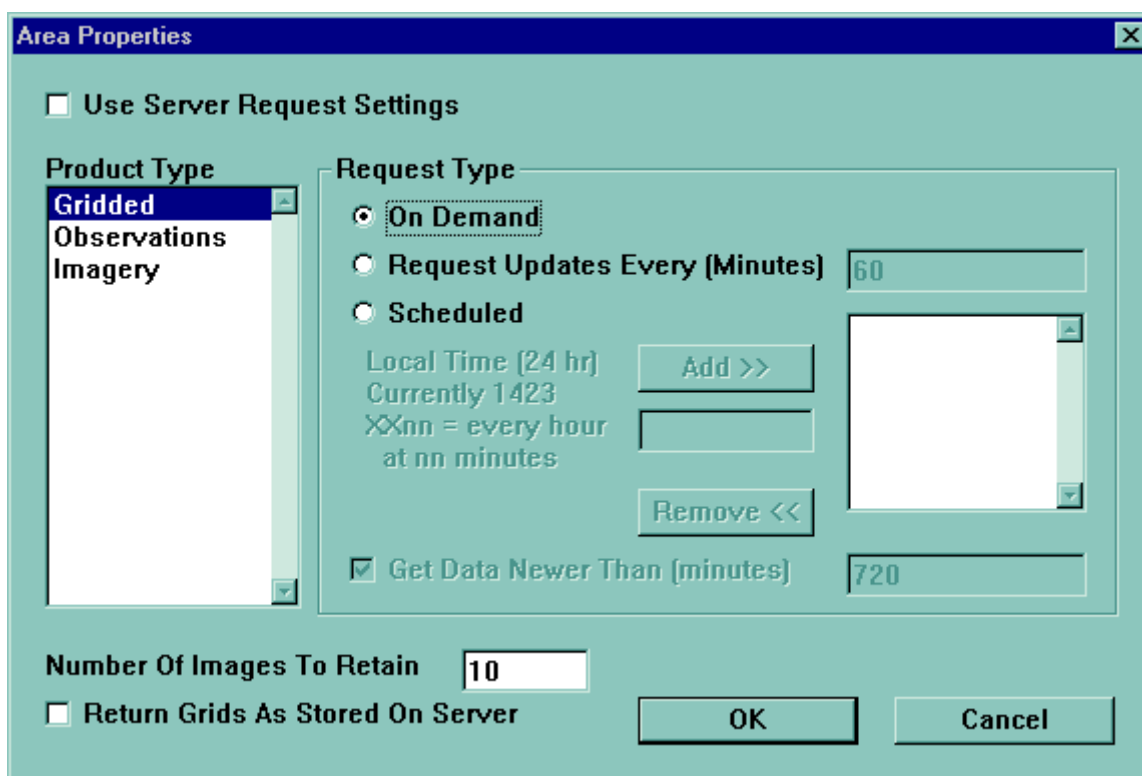


Figure 47. Area Request Setup Dialog

When the **Use Server Request Settings** check box is checked, the features of the Area properties dialog box will be nonfunctional, and the request settings that were previously established for the server, will be used as the Area's settings. To view the Server Request settings, open the **Options** menu in the METCAST Requestor, select the **Servers...** option, highlight the desired server, click the **Edit** button, and then click the **Request Setup** button in the Server Configuration dialog. If the existing server settings are satisfactory, click on the **OK** button in the Area Properties dialog to accept the settings and close the dialog box.

When the **Use Server Request Settings** is unchecked, the dialog box features become functional, and the user may configure request types specific to the area. Area request settings will override Server request settings.

The **Product Type** list box at the top left allows you to select the particular **Product Type** you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

- | | |
|--|--|
| On Demand | The retrieval is performed once, as soon as the area is <i>scheduled</i> , and not repeated. The term <i>schedule</i> in this context is different than that used below to define retrievals at specific times. See section 5.7 for instructions on <i>scheduling</i> an area. |
| Request Updates Every (Minutes) | A retrieval is started when the area is scheduled. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval. NOTE: When changing the request update time interval for an area that is presently scheduled, the area must be unscheduled and then re-scheduled before the new update time interval will be activated. See IMPORTANT NOTE below. |
| Scheduled | Retrievals are started at specified times. When this option is selected, the Add >> and << Remove buttons and the Local Time text box between them become active. You can type a time into the Local Time text box and then click the Add >> button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the << Remove button. A retrieval will be started at each of the specified times. |

IMPORTANT NOTE: When using the Request Updates Every (minutes) option to retrieve gridded data, do not set the update frequency to greater than the default values unless there is a valid operational reason to do so. The default value for gridded data is 60 minutes, which is generally sufficient when retrieving model data. Many users have set their update frequency to five minutes, which causes an undue load on the METCAST server. An update cycle of that frequency will needlessly consume valuable CPU time on the Server, only to return a “nothing is new” reply.

The preferred method to insure that the latest model data has been received is to “force” a retrieval using the METCAST Retriever Monitor. To do so, open the Metcast Retriever monitor by double clicking on the blue/white cloud icon in your system tray. Locate the desired session in the Current Sessions Tab window, click on that session to highlight it, and then click the Start button. A retrieval request will commence, and when finished, the session will be restarted at the previously defined time interval.

The **Get Data Newer Than (Minutes)** checkbox and text box may be used to prevent the continuous downloading of old data. The default setting for Imagery and Gridded data is 720 minutes (12 hours), which means that only data less than 12 hours old will be downloaded. The default setting for Observation data is 90 minutes. This feature is enabled only when the **Scheduled** or **Request Updates Every (Minutes)** radio buttons are selected. The checkbox is permanently checked for **Observations** and **Imagery** data, however, the corresponding time displayed in the text box may be modified to any number of minutes greater than zero.

The **Number of Images to Retain** text box pertains only to satellite images, and specifies the number of images to be kept on your local disk.

The **Return Grids as Stored on Server** checkbox provides a method to retrieve gridded data in the same map projection that was used to store it on the server. This option was designed for a small number of users who use Metcast Client to feed gridded (GRIB) data into other applications. When this function is selected, the data file will not be converted into any other projection. **DO NOT** check this box when using JMV to display gridded data, account the data will not be viewable.

The **OK** button accepts your selections and closes the dialog. The **Cancel** button closes the dialog without making any changes to the settings that were in place before it was opened.

5.6 Setting Up Lists

Lists provide a non-geographic way to select certain types of data for download and display as text. There are four types of lists:

1. **Bulletin List** is a list of plain text bulletins to be downloaded. These may include bulletins containing collections of observations in WMO code format, or simply plain text that is not decodable. Bulletins are identified by their Manual of Operations (MANOP) header, as specified in *WMO-386*, and as shown in the table below. This table shows the WMO designators for the type and subtype of the bulletin; for example, a bulletin whose MANOP header starts with “WA” contains SIGMET and AIRMET warnings. The next two characters in the MANOP header identify the geographic area covered by the report, and the last two characters provide a sequential number. A space follows, then the ICAO identifier of the station that originated the bulletin. Finally, after another space, the date and time of the bulletin appear.

Type	Type (Table A) Designator	Subtype (Table B1) Designator
Forecast Reports	F	E = Extended Forecast H = Upper Air Thickness I = Iceberg J = Radio Warning Service K = Tropical Cyclone Advisories L = Local Area Forecasts M = Temperature Extremes O = Guidance Q = Other Shipping V = Volcanic Ash W = Winter Sports X = Miscellaneous
Surface Reports	S	T = Sea Ice U = Snow Depth X = Miscellaneous
Upper Air Reports	U	X = Miscellaneous
Warnings	W	A = AIRMET/SIGMET C = Tropical Cyclone (SIGMET) D = Tropical Cyclone Discussion E = Tsunami F = Tornado (USAF) G = River Flood H = Hurricane M = High Seas (USAF) O = Other S = SIGMET T = Tropical Cyclone (Typhoon) U = Severe Thunderstorm V = Volcanic Ash (SIGMET) W = Military Weather Warnings (USAF) X = Misc. Weather Warnings (USAF)
Notices	N	G = Hydrological H = Marine N = Nuclear Emergency O = METNOWIFMA P = Product generation delay T = Test Message W = Warning Related or Cancellation

A typical MANOP header, then, might be something like WTPN31 PGTW 030200. The W indicates that the bulletin contains warnings, the T that it contains tropical cyclone warnings. The PN portion indicates that the warnings are for the North Pacific, and PGTW indicates that the bulletin was originated by the Joint Typhoon Warning Center. Finally, the 030200 group shows that the report is for the third day of the current month and was issued at 0200Z.

2. **Station List** consists of a list of ICAO station call signs and a specification of the type(s) of data to be downloaded for each station on the list. The data types currently available are METARs (hourly surface observations) and SPECIs (special surface observations), TAFs (terminal aerodrome forecasts), and upper air reports.

3. **Global List** provides a method to display global Ship Reports and PIREP (Pilot Reports).
4. **Remote List** provides a method to display Station and Bulletin List data that is physically located on another machine on the network. Remote Link Lists are for display only; you cannot schedule them nor control the data downloaded.

To set up a list, begin by clicking on the **Create a New List** Menu button, or click on the **Area/List** item in the Menu Bar, then select **Create New List** from the drop-down menu. This opens the Create New List dialog shown in Figure 48 below.

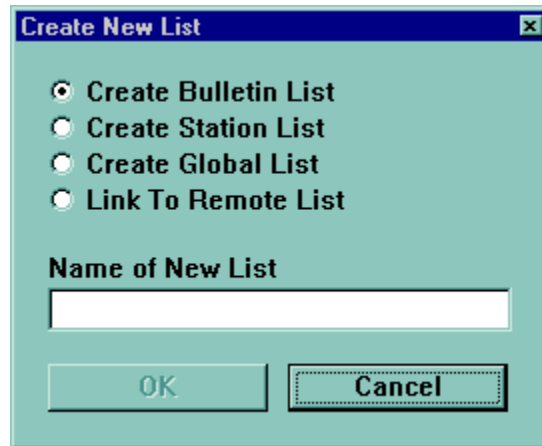


Figure 48. The Create New List Dialog

Select the type of list to be created and enter a name for the list in the entry box. The **OK** button will then be activated and you can click on it to proceed. If you don't want to create a list, click on the **Cancel** button.

The steps required to configure each of the four List types are shown in the subsections below.

5.6.1 Selecting Bulletins for a Bulletin List

Select the **Create Bulletin List** radio button in the Create New List dialog and click on the **OK** button. The Edit Bulletin List dialog shown in Figure 49 will be displayed.

The radio buttons at the top allow you to select bulletins by bulletin name or by originator; **Bulletin Name** is selected by default. These buttons allow the user to select the scrolling mode for the **Available Bulletins** list. If **Bulletin Name** is selected, the list scrolls by bulletin name. If **Originator** is selected, the list scrolls by the ICAO station name (e.g. KNZY, KWBC, etc). There are two lists at the bottom; one shows bulletins available for selection and the other shows those currently selected. The **Server** drop-down menu lets you select the server from which you want to get the bulletins. The **Bulletin/Originator Name** box above the **Available Bulletins** list allows you to quickly scroll the **Available Bulletins** list by typing in a bulletin name. The box below the Bulletin/Originator Name and Server boxes shows a description of the bulletin currently highlighted.

The actual selection is normally made by highlighting an item in the **Available Bulletins** list and using the -> button between the lists to move it to the **Selected Bulletins** list. Beginning with release 1.2.0.3, it is also possible to enter bulletin names that are not on the **Available Bulletins** list and move them to the **Selected Bulletins** list.

A powerful feature for bulletin selection is wildcarding using the % sign. To select all bulletins whose names begin with A, for example, the user can simply enter A%. To select all tropical cyclone warnings, enter WT%. **Use of wildcards is strongly encouraged when large numbers of bulletins are being requested, because wildcarding results in a much more efficient query to the database and improves METCAST's performance in bulletin retrieval.**

The <- button is used to delete an item from the **Selected Bulletins** list and move it back to the **Available Bulletins** list. The <<- button clears the **Selected Bulletins** list, moving all items back to the **Available Bulletins** list. The **Server** drop-down list allows you to select the server that will serve as the download source (from the list of servers you have defined).

Edit Bulletin List

☒ Bulletin Name ☐ Originator

Bulletin/Originator Name: Server:

State Max/Min and Precip for AK

Available Bulletins

- ABAK58 PAFC
- ABCA1 KNHC
- ABCN01 KWBC
- ABIO10 PGTW
- ABNA26 KWBC
- ABNT20 KNHC
- ABNT30 KNHC
- ABPW10 PGTW
- ABPZ20 KNHC
- ABPZ30 KNHC
- ABUS23 KWBC
- ABUS24 KWBC
- ABUS25 KWBC
- ABUS26 KWBC
- ABXX05 KWBC
- ABXX06 KWBC
- ABXX07 KWBC
- ACCA42 TJSJ
- ACIO10 FJDG
- ACPA40 PHFO
- ACPA80 PHFO

-> <- <<-

Selected Bulletins

OK Cancel Configure

Figure 49. Edit Bulletin List Dialog

The **Configure** button opens the Configure List Request dialog shown in Figure 51.

The drop-down list box at the top allows you to select the particular product type you want to configure. The radio buttons in the center section specify the type of retrieval to be done for this data type. The options are:

- | | |
|--|--|
| On Demand | The retrieval is performed once, as soon as the bulletin list is <i>scheduled</i> , and not repeated. The term <i>scheduled</i> in this context is different than that used below to define retrievals at specific times. See section 5.7 for instructions on scheduling a list. |
| Request Updates Every (Minutes) | A retrieval is started when the bulletin list is <i>scheduled</i> . The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval. NOTE: When changing the request update time interval for a bulletin list that is presently scheduled, the list must be unscheduled and then re-scheduled before the new update time interval will be activated. |
| Scheduled | Retrievals are started at specified times. When this option is selected, the Add >> and << Remove buttons and the Local Time text box between them become active. You can type a time into the Local Time text box and then click the Add >> button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the << Remove button. A retrieval will be started at each of the specified times. |

The **Only Get Data Modified Within (minutes)** checkbox and text box may be used to prevent the continuous reloading of old data. The default setting is to only download data modified within the last 12 hours (720 minutes).

The **Discard Data After (Minutes)** box is used to specify how long downloaded bulletins will remain on your system. After the number of minutes specified, the bulletin(s) will be deleted.

The **Report Versions to Keep** box allows you to specify how many reports will be kept on your system at any given time. As new reports are received, the oldest remaining reports will be deleted.

The **OK** button in the Edit Bulletin List dialog accepts the current selections and closes the dialog. The **Cancel** button closes the dialog without making any changes.

5.6.2 Selecting Stations and Products for a Station List

Select the **Create Station List** radio button in the Create New List dialog and click on the **OK** button. The Edit Station List dialog shown in Figure 50 will be displayed.

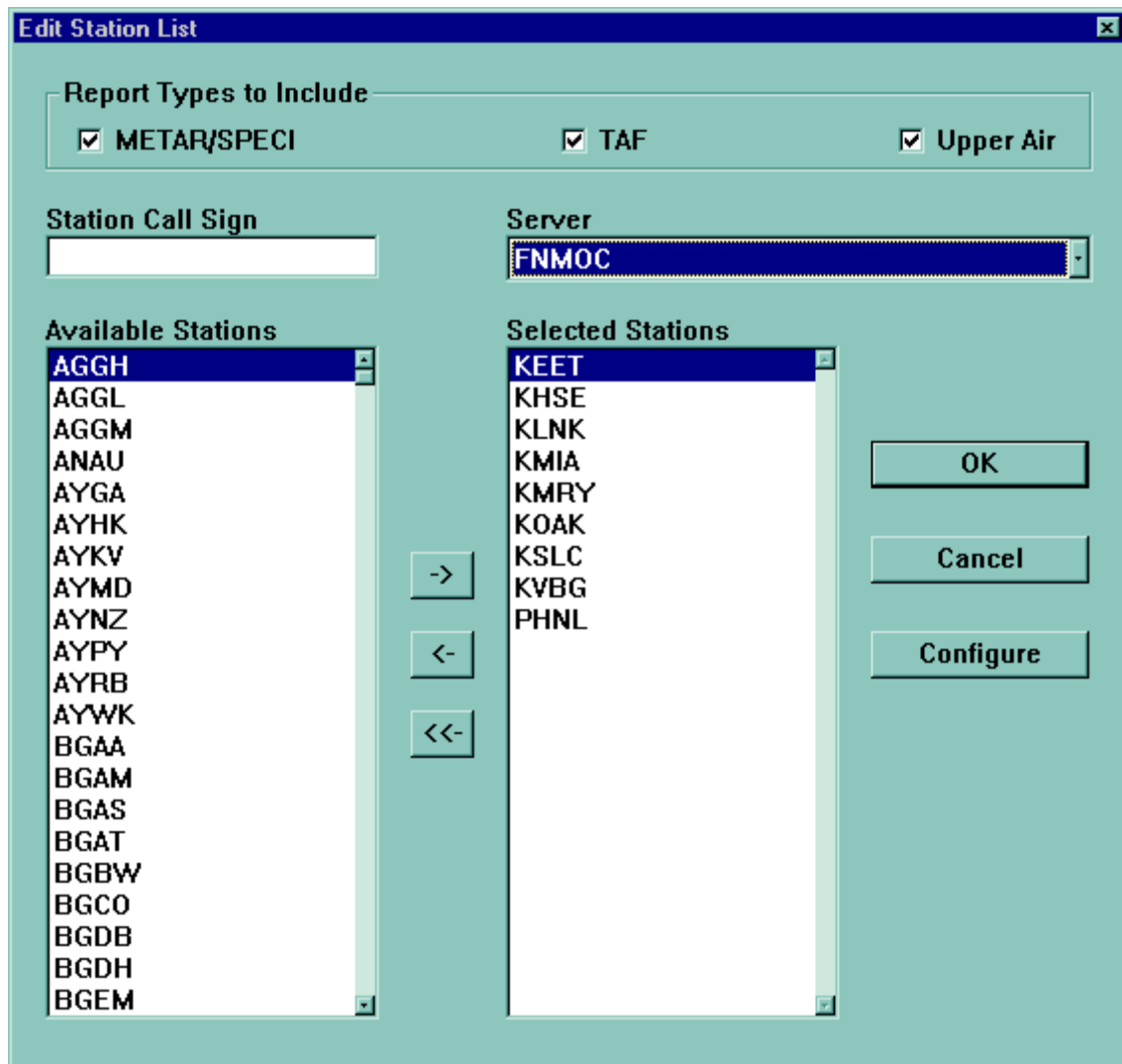


Figure 50. Edit Station List Dialog

The check boxes at the top allow you to select the type(s) of data to be downloaded for each station selected (Metar/Speci, TAF, and Upper Air). There are two lists at the bottom; one shows stations available for selection and the other shows those currently selected. The **Station Call Sign** box above the **Available Stations** list allows you to quickly scroll the **Available Stations** list by typing in a station name. The actual selection is made by highlighting an item in the **Available Stations** list and using the -> button between the lists to move it to the **Selected Stations** list. The <- button is used to delete an item from the **Selected Stations** list and move it back to the **Available Stations** list. The <<- button clears the entire **Selected Stations** list, moving all items back to the **Available Stations** list. The **Server** drop-down list allows you to select the server, which will serve as the download source (from the list of servers you have defined).

The **Configure** button opens the Configure List Request dialog shown in Figure 51.

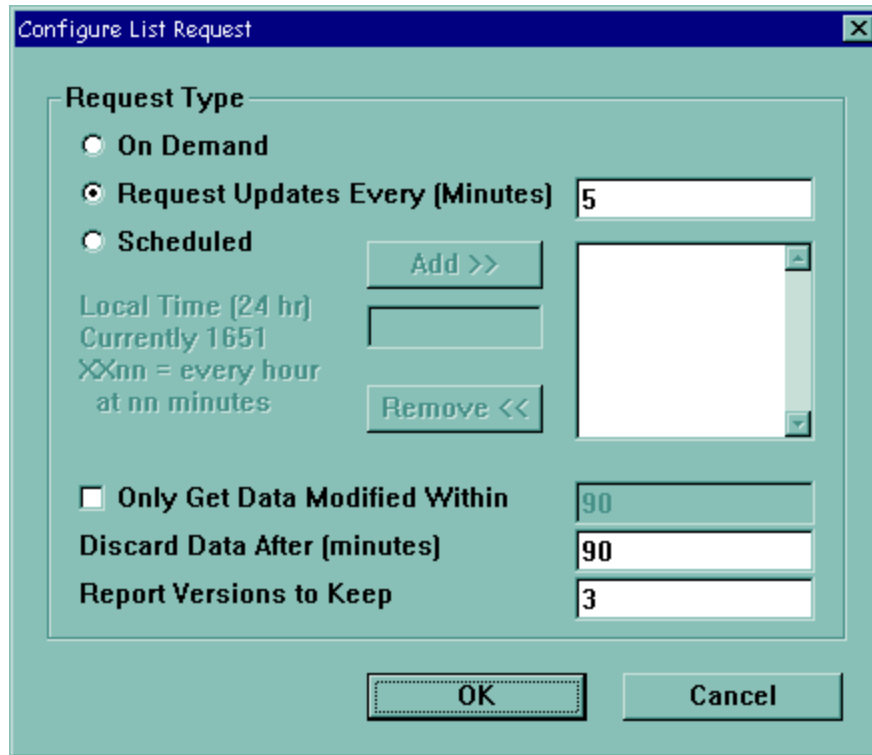


Figure 51. Configure List Request Dialog

The radio buttons in the center section are used to select the type of retrieval to be used. The options are:

- | | |
|--|--|
| On Demand | The retrieval is performed once, as soon as the station list is <i>scheduled</i> , and not repeated. The term <i>schedule</i> in this context is different than that used below to define retrievals at specific times. See section 5.7 for instructions on <i>scheduling</i> a list. |
| Request Updates Every (Minutes) | A retrieval is started when the station list is <i>scheduled</i> . The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval. NOTE: When changing the request update time interval for a station list that is presently <i>scheduled</i> , the list must be unscheduled and then re-scheduled before the new update time interval will be activated. |
| Scheduled | Retrievals are started at specified times. When this option is selected, the Add >> and << Remove buttons and the Local Time text box between them become active. You can type a time into the Local Time text box and then click the Add >> button to add it to the list of times shown in the list box at the right. You can remove a time from the list by highlighting it and then clicking the << Remove button. A retrieval will be started at each of the specified times. |

The **Only Get Data Modified Within (minutes)** checkbox and text box may be used to prevent the continuous reloading of old data. The default setting is to only download data modified within the last 90 minutes. Click on the checkbox to activate this feature.

The **Discard Data After (Minutes)** textbox is used to specify how long downloaded observation reports will remain on your system. After the number of minutes specified, the reports will be deleted. The default is set to 90 minutes.

The **Report Versions to Keep** text box is used to specify the maximum number of reports that will be kept on your system at any given time. As new reports are received, the oldest remaining reports will be deleted.

The **OK** button accepts your selections and closes the Configure List Request dialog. The **Cancel** button closes the dialog without changing any options.

The **OK** button in the Edit Station List dialog accepts the current selections and closes the dialog. The **Cancel** button closes the dialog without making any changes.

5.6.3 Selecting a Global List

Select the **Create Global List** radio button in the Create New List dialog and click the **OK** button. The Global List Edit dialog shown in Figure 52 will be displayed.

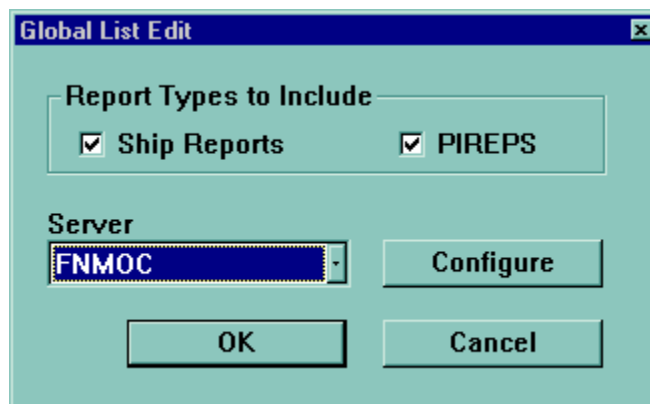


Figure 52 Global List Edit dialog

The **Report Types to Include** checkboxes are used to select the desired data types to download, Ship Reports and/or PIREPS. The pull down Server menu box is used to select which server will be used as the download source.

The **Configure** button opens the Configure List Request dialog shown in Figure 51, above. This dialog is used to set up data requests in the same manner as described in section 5.6.2 above.

Click on the **Cancel** button to close the dialog box without creating a Global List.

5.6.4 Selecting a Remote List.

Prior to selecting a Remote List, the user must configure a “remote link” between the local computer and the remote computer. See [Creating a Remote Link](#) (Section 4.5) for instruction on creating a remote link before following the directions listed below.

If you selected **Link to Remote List** in the Create New List dialog (accessed via the **Area/List** icon in the Metcast Requestor Menu Bar) and clicked the **OK** button, the **Select Remote List** dialog shown in Figure 53 will be displayed.

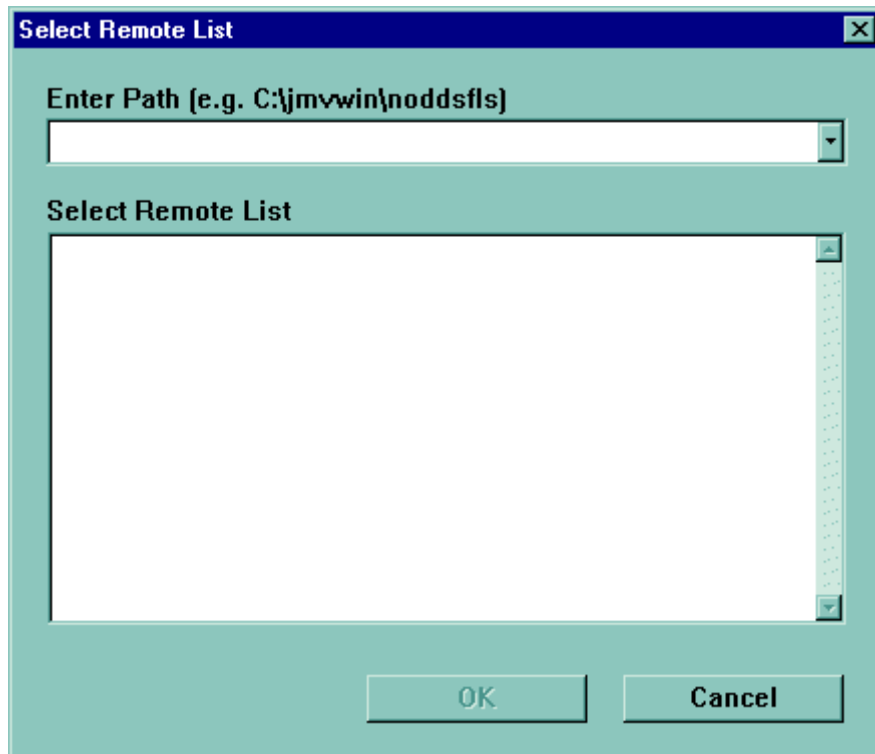


Figure 53. Select Remote List dialog.

In the **Enter Path** text window, enter the Mapped Drive Letter and the complete path to the noddsfls directory on the remote computer running Metcast (for example: C:\jmvwin\noddsfls). When a valid path is entered in this text window, the Stations and Bulletin Lists that are available on the remote computer will be displayed in the Select Remote List window as shown in Figure 54 below.

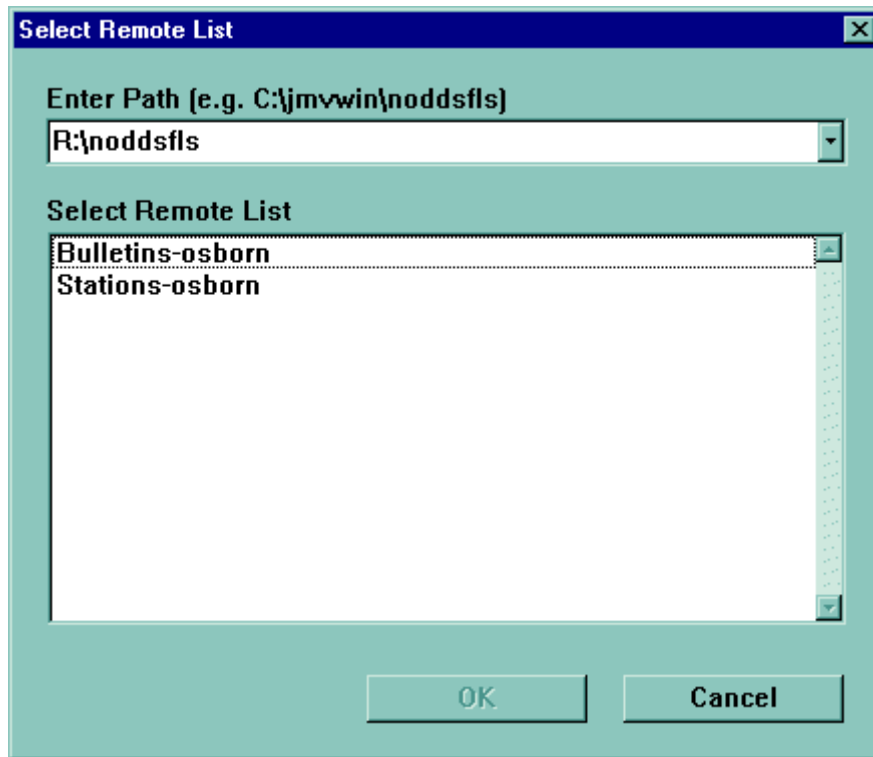


Figure 54. Select Remote List dialog showing Path to Remote Data directory

To select a station or bulletin list, click on the bulletin or station listed within the Select Remote List window. The bulletin or station list will become highlighted. To select multiple lists (if available), click on the first list to highlight it, then press and hold the **Shift** key while clicking on any other desired lists. When finished, click the **OK** button.

Clicking the **Cancel** button will cancel the remote list setup and close the dialog box.

After selecting the desired lists and clicking on the **OK** button, the selected lists will appear in the Metcast Requestor Window shown in Figure 55 below. The associated Bulletin and Station Icons will be highlighted in yellow to differentiate them from locally generated Lists.



Figure 55. Metcast Requestor showing two Remote Lists

Remote bulletin and Station List data may be displayed using the same procedures as locally generated lists. [Section 5.1](#) contains information about using the text display program to view lists.

The use of JMV to display products is discussed in the *Joint METOC Viewer User's Manual*.

5.7 Scheduling an Area or List

Scheduling an area or list activates the retrievals you set up in the request setup. Data will only be retrieved for an area or list when it is scheduled. To schedule an area or list, either:

1. Click on the area icon or list name to highlight it and click the **Schedule/Unschedule** button in the toolbar,
2. Click on the area icon or list name to highlight it, pull down the **Area/List** menu, and select **Schedule**, or
3. Right-click on the area icon or list name to open its context menu and select **Schedule**.

A Scheduled Area will be overlain with a red check mark, while a Scheduled List will display a red check mark to the left of its name in the Lists area. Note that if the area or list is only set up for **On Demand** retrievals, the red check mark will disappear when all retrievals are completed. The Schedule feature functions as a “toggle”. To **Unschedule** an Area or list, simply repeat one of the three steps listed above.

5.8 Displaying the Status of a Retrieval

METCAST Client provides two ways to check the status of retrievals.

1. A Retriever Monitor to view the progress of current and past retrievals. The Retriever Monitor shows the status of each retrieval transaction in each retrieval session. A session is a retrieval for a specific type of data for a specific area. If you schedule a retrieval for an area whose product list includes grids, imagery, and observations, for example, you will start three separate retrieval sessions, one for each type of data. The retriever monitor also lets you stop individual retrieval sessions. More information about the Retriever Monitor is contained in [Section 5.8.1](#).
2. An Area Status list that lists the products retrieved for an area. More information about the Area Status list is contained in [Section 5.8.2](#).

5.8.1 Using the Retriever Monitor

Under Windows (NT, 98, or 2000), the Retriever Service and Retriever Monitor are started when you start METCAST Client. The Retriever monitor appears as a small "cloud" icon in the System Tray (the small group of icons at the right end of the task bar). Double-clicking this icon (or right-clicking it and selecting **Retriever Status** from the context menu) opens the Retriever Monitor, shown in Figure 56 below.

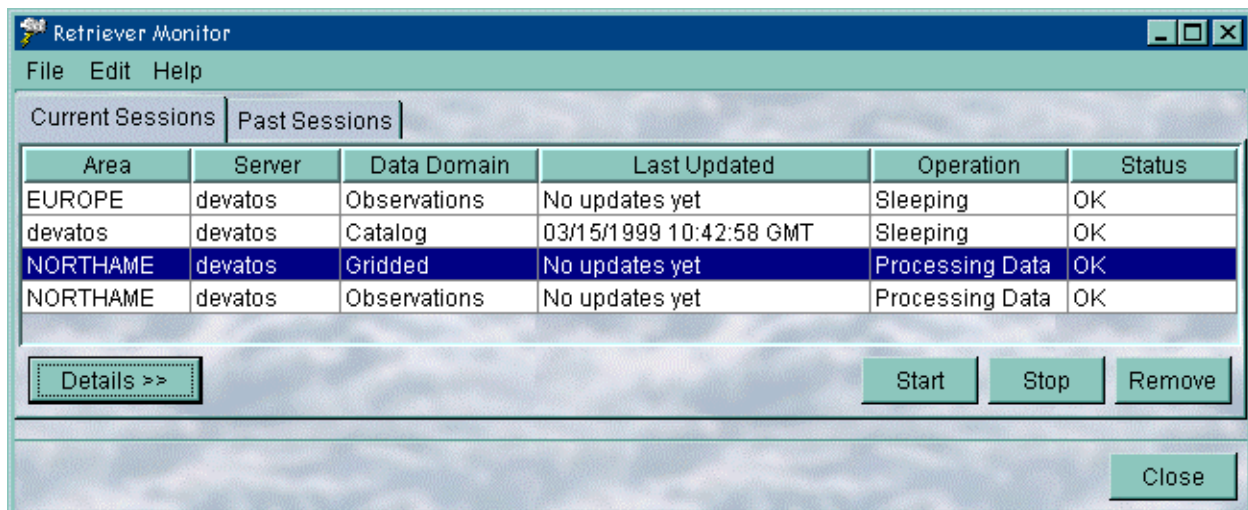


Figure 56. Retriever Monitor

The **Current Sessions** tab is selected by default and displays the summary status of each retrieval in progress. It shows the area(s) for which data are being retrieved, the data server, the type of data (Data Domain), the time this data type was last updated, the operation currently in progress, and the status of the operation.

Click on the **Past Sessions** tab to view the summary status for previously run sessions.

To see more detail, click on the **Details >>** button. This opens the detail display, as shown in Figure 57.

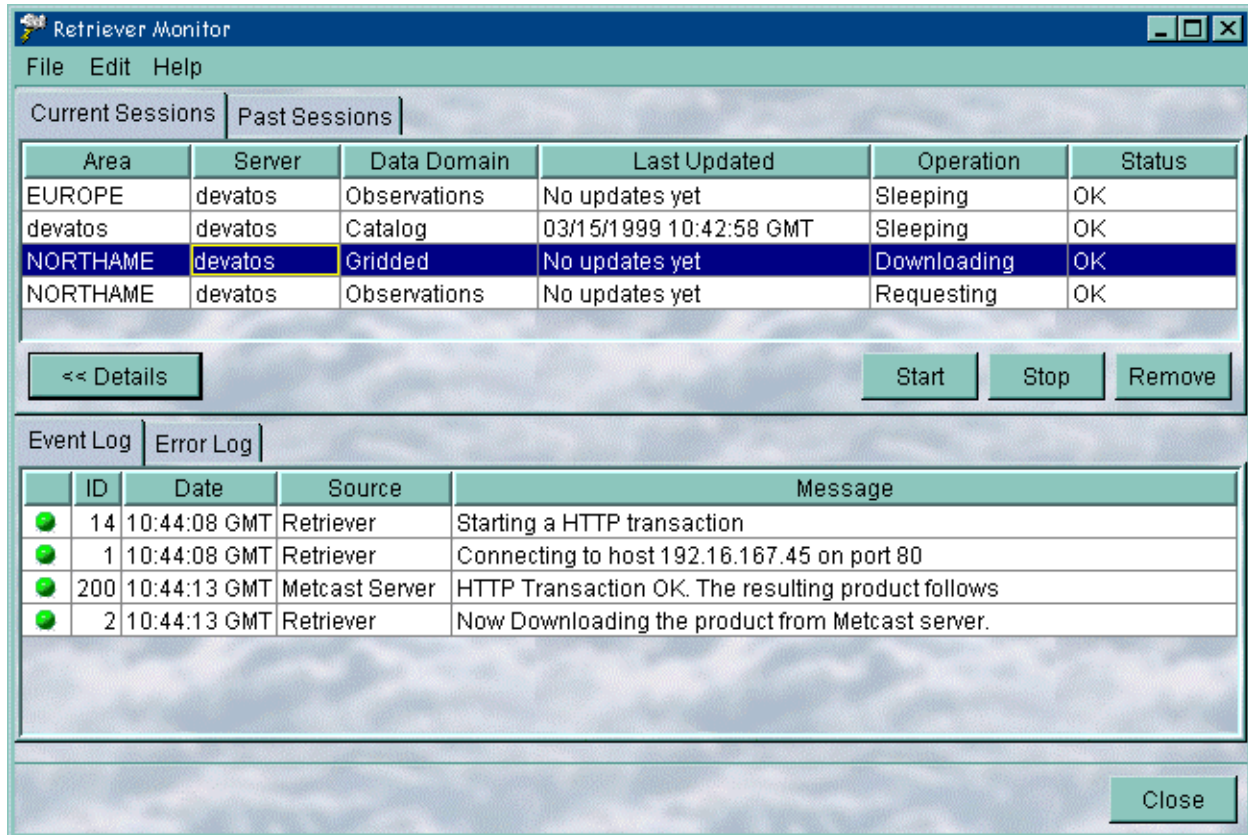


Figure 57. Retriever Monitor Showing Details for a Retrieval Session

The **Event Log** tab shows the details of the session currently highlighted in the upper section. This shows all of the transactions between the METCAST Client and the Server. At the far left is a "stoplight" display that is green for good transactions, yellow for transactions that generated a warning, and red for failed transactions. Click on the **Error Log** tab to view transaction warning and failure messages.

The **Stop** button is used to stop or suspend the retrieval session that is highlighted. The **Start** button may be used to restart a session that you have stopped. The **Remove** button stops the highlighted session and removes it from the list, so it cannot be restarted.

The **Close** button closes the Retriever Monitor display, but does not shut off the monitor itself.

The **File** menu button contains three menu options.

1. **Purge Past Sessions** – Select this item to delete all data from the past sessions log.
2. **Retriever Preferences** – Select this item to open the **Retriever preferences** Dialog box as shown in Figure 58 below.

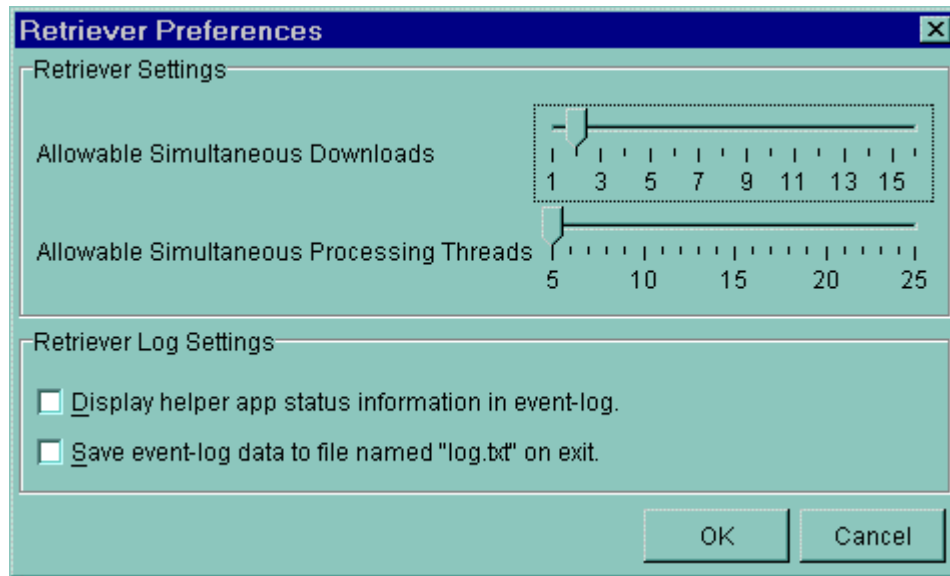


Figure 58 Retriever Preferences Dialog.

Retriever Settings box:

Prior to discussing the two Slider Bars in the Retriever Settings box, a brief and simplified explanation of download and processing threads is necessary. Each download has an associated “Owner thread” that runs without restriction to processes the downloaded MIME (Multipurpose Internet Mail Extension) message. When an Owner thread completes the download processing of a MIME message, the “Worker threads” then take over to complete the processing of the MIME message.

The **Allowable Simultaneous Downloads** slider is used to select the number of downloads, or Owner threads, that may occur simultaneously. The default for simultaneous downloads is set to two, but users with ample system resources may increase this number. We recommend increasing the number of downloads in small increments, then observing system performance. If performance remains adequate, then the new number of downloads should be ok. If system performance degrades, the user should reduce the number of simultaneous downloads.

The **Allowable Simultaneous Processing Threads** slider is used to select the number of worker threads that are used to complete the post download processing of the MIME messages. The default value is set to five, but users with the available system resources may increase this number by the same method described in the paragraph above. Note, that as the number of processing threads is increased, system performance may become seriously degraded if adequate resources are not available.

Retriever Log Settings box:

The **Display helper app status information in event log** check box is used to “filter” the amount of Metcast to Server status information (descriptive text) that is displayed in the **Event Log**. When this box is unchecked, as it is by default, the Event Log displays a

concise version of the descriptive text. If the user desires a more verbose description, then this box should be checked.

The **save event-log data to a named “log.txt” on exit** check box was created as a diagnostic tool for FNMOC software developers and technical support staff. This box is unchecked by default and should remain unchecked unless FNMOC technical support staff request that it be checked.

3. **Close** – provides an alternate method to close the Retriever Monitor display window, but does not shut down the monitor itself.

The **Edit** menu button is used to copy the **Event Log** or **Error Log** of a selected session to the clipboard for importing into another application such as a text editor. To use this feature, first select the desired session by clicking on the area of interest in the Sessions window to highlight it. Next, click on the **Edit** menu button and a drop down list will display a **Copy >** button. Click on the **Copy** button and a fly out menu will display two copy options – **Event log to Clipboard**, and **Error log to Clipboard**. Click on the desired option and the highlighted session’s details will be copied to the clipboard.

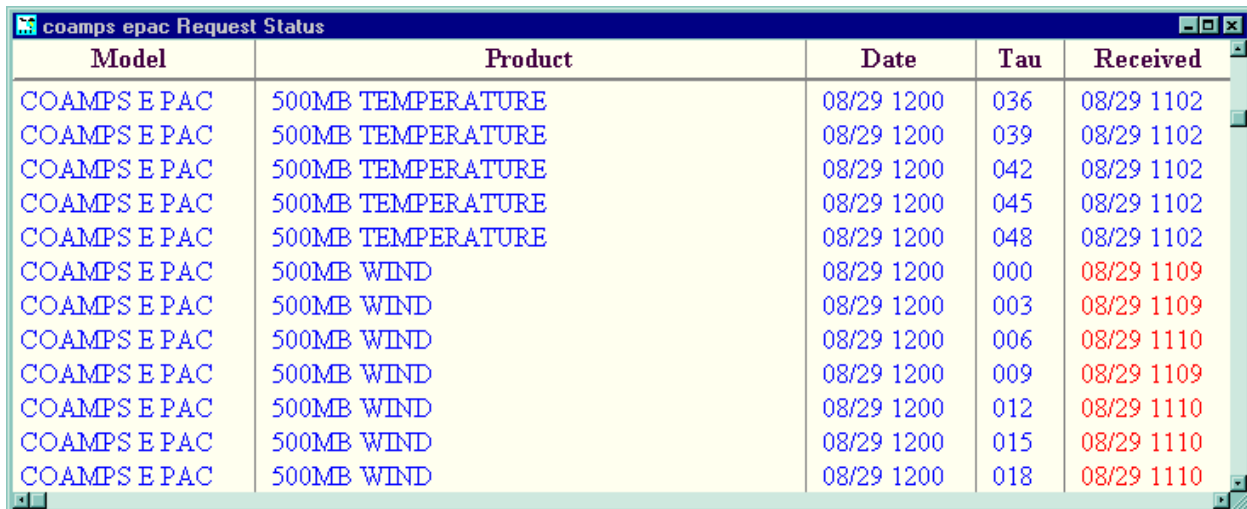
The **Help** menu button contains two menu options. Click on the **About** button to display the version number and date of the Retriever Monitor. The other option, **Dump Status**, was created as a diagnostic tool for FNMOC software developers and technical support staff.

5.8.2 Using the Area Status Display

The status display may be accessed in two ways:

1. Clicking on the area’s icon to highlight it, pulling down the **Area** menu, and selecting **Status...**, or
2. Right-clicking on the area’s icon to open its context menu, and selecting **Status...**

In either case, the program opens the status display for the area. A typical status display is shown in Figure 59.



Model	Product	Date	Tau	Received
COAMPS E PAC	500MB TEMPERATURE	08/29 1200	036	08/29 1102
COAMPS E PAC	500MB TEMPERATURE	08/29 1200	039	08/29 1102
COAMPS E PAC	500MB TEMPERATURE	08/29 1200	042	08/29 1102
COAMPS E PAC	500MB TEMPERATURE	08/29 1200	045	08/29 1102
COAMPS E PAC	500MB TEMPERATURE	08/29 1200	048	08/29 1102
COAMPS E PAC	500MB WIND	08/29 1200	000	08/29 1109
COAMPS E PAC	500MB WIND	08/29 1200	003	08/29 1109
COAMPS E PAC	500MB WIND	08/29 1200	006	08/29 1110
COAMPS E PAC	500MB WIND	08/29 1200	009	08/29 1109
COAMPS E PAC	500MB WIND	08/29 1200	012	08/29 1110
COAMPS E PAC	500MB WIND	08/29 1200	015	08/29 1110
COAMPS E PAC	500MB WIND	08/29 1200	018	08/29 1110

Figure 59. Request Status Display

This display simply shows the list of products retrieved for the selected area. Items retrieved during the latest run are displayed with dates and times in red; older items are displayed with dates in blue. This display is continuously updated, so that any newly retrieved data will show up almost immediately.

You may have status displays for multiple areas open simultaneously. To close a status display window, click on the **Close** button at the upper right corner, or pull down its control menu and select **Close**.

5.9 Displaying Products

METCAST Client works in conjunction with Joint METOC Viewer (JMV) to display products retrieved. There are four ways to start JMV to display products on a map display:

1. Double-click the area's icon,
2. Click on the area's icon to highlight it, then click the **Display Products** button in the toolbar,
3. Click on the area's icon to highlight it, then pull down the **Display** menu and select **Map Display...**,
4. Right-click on the area's icon to open its context menu, then select **Display...**

If you haven't configured a display program yet, a dialog will pop up asking you to do so. Pull down the **Display** menu and click on **Configure...**. This will open the Configure Viewers dialog shown in Figure 60.

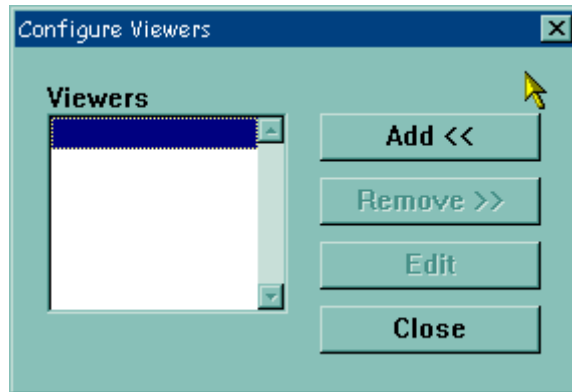


Figure 60. Configure Viewers Dialog

To add a viewer, ensure that a blank space is highlighted in the Viewers list (if not, click the blank space below the last item in the list) and click the **Add <<** button. This will open the Edit Viewer dialog, shown in Figure 61.

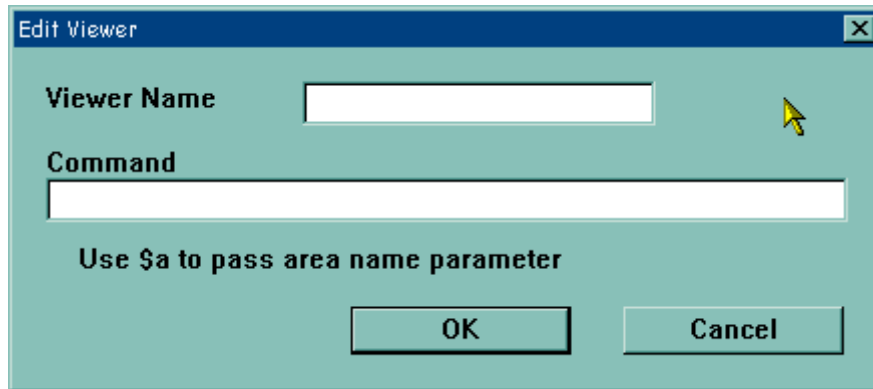


Figure 61. Edit Viewer Dialog

The **Viewer Name** type-in box is used to specify the viewer name that will appear on the Display menu. The **Command** type-in box is used to specify the path to the viewer. The default viewer for maps is a program called *mdisplay*, which is located by default at *C:\jmvwin\noddsfls\mdisplay.exe*. Note that to ensure that the program opens the display for the area that is highlighted, you must add a space and **\$a** after the path name. The default entry for maps is then *C:\jmvwin\noddsfls\mdisplay.exe \$a*. Click the **OK** button to accept the new viewer definition and return to the Configure Viewers dialog. While there, you may want to add a viewer for Upper Air observations. To do this, first click the space below the entry for *mdisplay* to highlight it, and click the **Add>>** button. This will add the Skew-T viewer on the line below the map display viewer. The default viewer for upper air observations is located at *C:\jmvwin\noddsfls\skewt.exe*. The viewer for map displays should be at the top of the list, since the item at the top is the one automatically selected when the **Display** icon is clicked.

Assuming that a viewer has been configured, any of the four actions listed above will open JMV's Choose Products dialog to allow you to select products to display.

You can also view Upper Air soundings in a Skew-T, Log P display by pulling down the **Display** menu and selecting **Skewt** (assuming that a viewer named Skewt has been configured as shown

above). This will open a dialog that lets you choose soundings to display from the list of soundings downloaded.

The use of JMV to display products is discussed in the *Joint METOC Viewer User's Manual*, referenced in Section 2.

Section 5.1 contains information about using the text display program to view lists.

5.10 Channels

METCAST Client Channels provide a method for individual Metcast users to distribute (publish) and retrieve various types of information (forecast model data, satellite imagery, documentation, Ship Route files, etc). The information is published on a server and then automatically distributed to Metcast sites that “subscribe” to the channel. The new Channels functionality is still in the developmental phase, and has not been released to the Regional Forecast Centers.

5.10.1 Configuring Channels

To publish or subscribe to a Channel, click on the **Options** menu in the Metcast Requestor menu bar and select **Channels**. The Channels dialog shown below will appear.

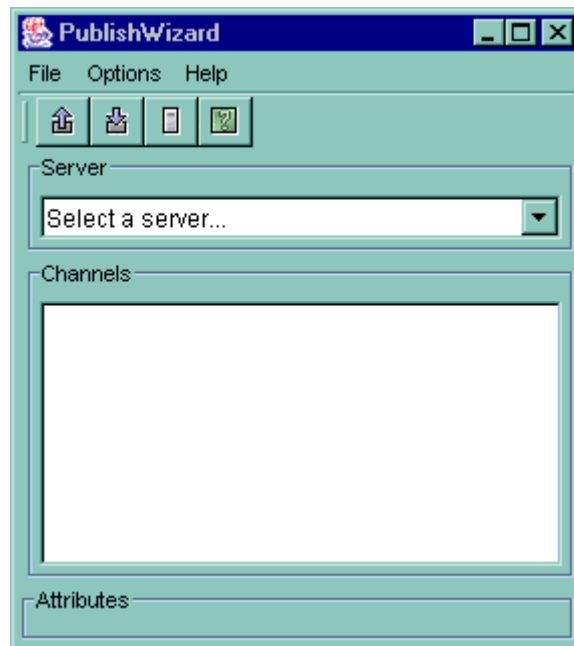


Figure 62. Channels Dialog.

Open the **Server** pull down list to view a list of available servers. All servers previously configured for Metcast data retrieval (via the Options menu – Servers item) will appear in this list. Select the desired server by highlighting it. All Channels present on that server will appear in the Channels window.

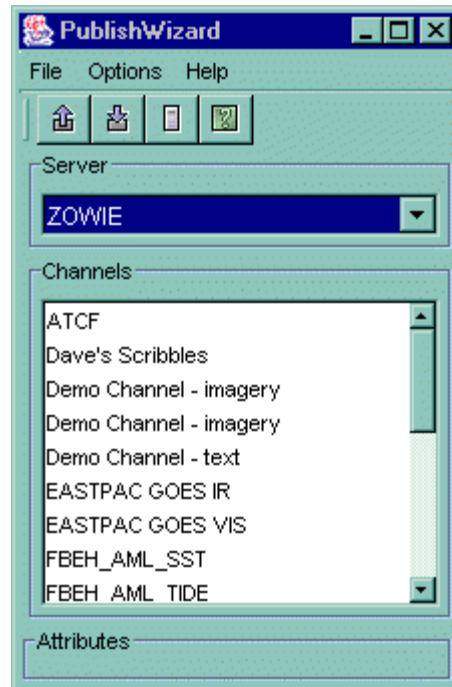


Figure 63. Channels Dialog with Server Selected.

If no servers have been configured, you may add a server by clicking on the **Edit Servers** button- second from the right in the tool bar, or by clicking on the pull down Options Menu and selecting **Servers**. The **Metcast Servers** dialog shown below will appear.

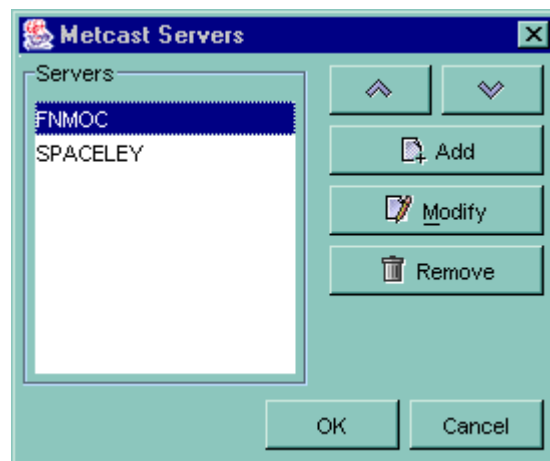


Figure 64. Channels Metcast Servers dialog.

The figure above shows that two servers have already been configured. The Up/Down arrow buttons change the order of the servers in the list box.

The **Modify** button opens a Server Configuration dialog that displays the existing settings for the highlighted server. Edits made to an existing server will be activated upon closing the Server Configuration dialog box.

The **Remove** button deletes the highlighted server. It is important to note that Channels use the same servers as the Metcast Requestor. When a server is deleted from Channels, it is also deleted from Metcast and cannot be used to retrieve data.

To add a new server, click on the **Add** button. A **Server Configuration** Dialog will appear; with all data fields empty. The figure below shows typical entries in the various data fields.

Server Configuration

Server

Name: FNMOC

URL: http://123.34.45.678/cgi-bin/mcsrvr/rest/server

Publish URL: http://123.34.45.678/cgi-bin/mcsrvr/rest/taker

☒ Active ☒ DPL Retry Time: 500

Proxy Server

☒ Use Proxy Server

URL: 129.60.45.202

Port: 20

User ID: Weather10

Password: *****

Authorization

☒ ID/Password

User ID: cumulus

Password: *****

☒ Certificate

Certificate: weather

Password: ****

OK Cancel

Figure 65. Channels Server Configuration dialog.

Enter a server **Name**, a server **URL** and server **Publish URL** in the appropriate text boxes.

The **Server URL** is the Uniform Resource Locator (URL) for the server, which identifies its location on the World Wide Web. The URL will always start with http://, which identifies the Internet protocol used to transfer the data. Both **http** and **https** are supported. The data between

the double slash and the next slash is called the *domain*, and specifies the Internet address of the machine where the server resides. This can be either a string of four numbers as shown in Figure 22 (152.80.49.210) or an Internet name (like zowie.metnet.navy.mil). The data following the single slash (after the domain) specifies where the server is located on the domain machine.

The **Publish URL** text box is used to enter the URL for the channels server.

The **Active** checkbox determines whether or not the server connection is “activated”. To communicate with a server, this box must be checked

The **DPL** check box enables downloading of the **Dynamic Product List** for that server. The Dynamic Product List is a list of all products that are present on a server. Each time Metcast Client is started, and periodically thereafter, the DPL is downloaded to the PC running Metcast Client. To receive this list, the DPL checkbox must be checked.

The **Retry Time** text box specifies the maximum length of time, in minutes, the program will continue trying to retrieve a set of data.

The **Use Proxy Server** box should be checked if METCAST Client and the server are on opposite sides of a network firewall. Enter the IP address of the Proxy server in the **URL** text box, the proxy port to use in the **Port** box. If necessary, enter the proxy **User ID** and **password**.

The **ID/password** box should be checked if your server requires a log in to gain access. Enter your **User ID** and **Password** in the text boxes provided.

If your server requires certificate authentication, click the **Certificate** box and enter the **Certificate** file name and **Password**.

The **OK** button saves settings and closed the dialog.

The **Cancel** button closes the dialog without saving the entries.

After adding a server and closing this dialog, you will be returned to the Channels, Metcast Servers dialog. The new server will appear in the Servers list window. Click the OK button to close this dialog and return to the main Channels dialog, as shown in figures 61 and 62 above.

5.10.2 Retrieving data via a Channel

Choose a server in the **Select a server** text box, and the associated channels will be displayed in the Channels box. Click on the desired channel and the Attributes box will expand to display the various attributes defined for the Channel. This is shown in the figure below.

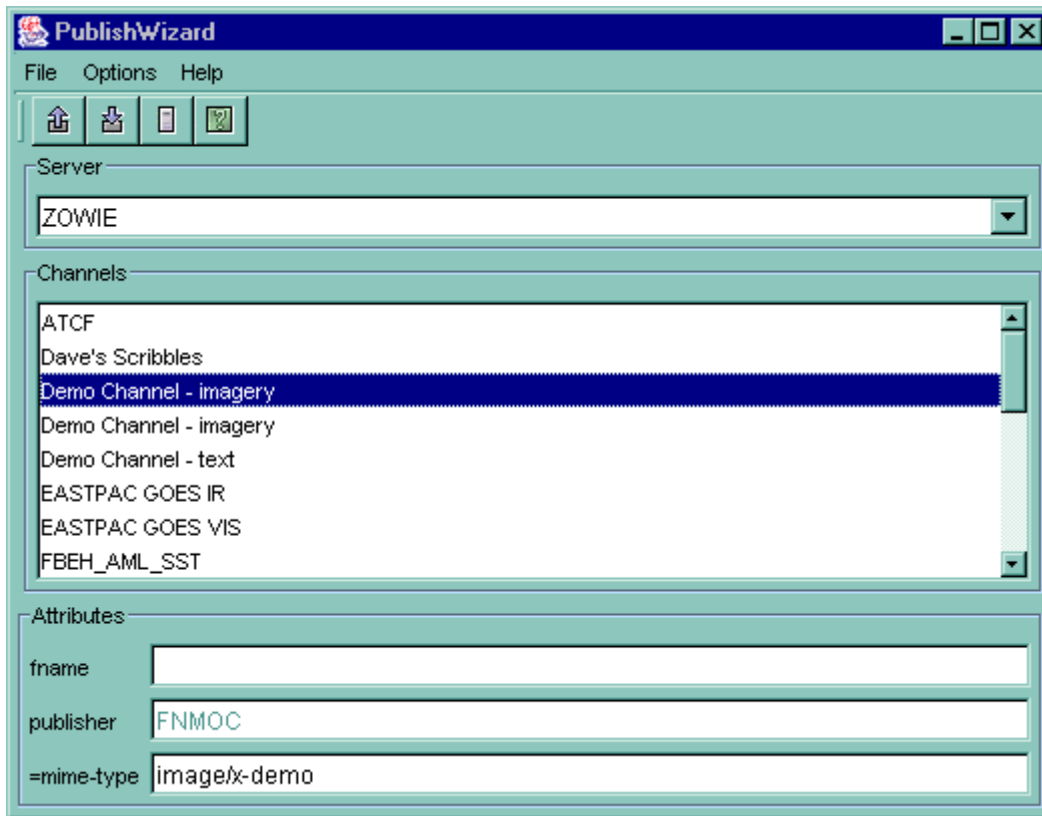


Figure 66. Channels Dialog with Channel selected.

The Attributes area will always display the **mime type** that has been defined for that channel. Other attributes are optional, and may include details about the publisher, Author, topic, etc. To correctly process data downloaded from a particular channel, the channel's mime-type must have a corresponding entry in the Metcast mailcap file.

IMPORTANT NOTE about mime-types and the Metcast mailcap file: All information retrieved by Metcast Client from a Metcast Server, is packaged in XML format. This format includes a **MIME** (Multipurpose Internet Mail Extension) type tag, which identifies the type of data that is contained within the XML package. The mailcap file contains a list of mime-types and a corresponding set of instructions (operations) that have been created specifically for each mime-type.

When data is received, Metcast processes it by executing the instructions for that particular mime-type (data type). The instructions may be as simple as, for example, to move a satellite image file to an archive directory and append a time stamp to the file name, or other applications may be launched to perform complex processing of the data before moving it to a destination directory. Refer to Appendix B, Mailcap File Editor, for additional information about the mailcap file.

To subscribe to the selected channel, click the **Retrieve a channel** button (the down arrow button). The Retrieval Options dialog shown below will appear.

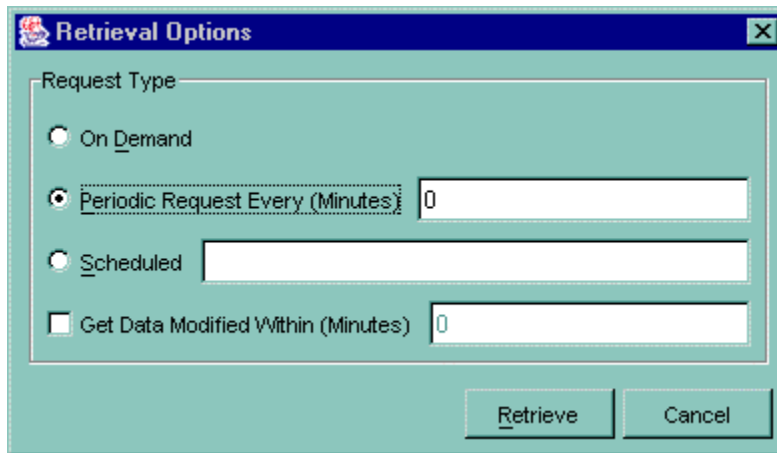


Figure 67. Channels Retrieval Options dialog.

This dialog is used to specify how often data will be downloaded from the selected channel. Select a desired Request Type by clicking the associated radio button. The options are:

- **On Demand.** Channel data is retrieved once, and not repeated, as soon as the Retrieve button is pressed.
- **Periodic Request Every (Minutes).** Retrieval is started upon pressing the Retrieve button. The specified number of minutes after completion of the first retrieval, another retrieval is started. Retrievals continue to be started automatically the specified number of minutes after completion of the preceding retrieval.
- **Scheduled.** Retrievals are started at specified times. Enter the desired retrieval time as local time, with spaces separating multiple time entries.

The **Get Data modified Within (Minutes)** Checkbox is activated when Periodic or Scheduled request types are selected. This checkbox and text box may be used to prevent the continuous downloading of old data.

Click the **Cancel** button to close the dialog and discard any changes. A Retrieval will not be started.

5.10.3 Publishing data via a Channel

The publish option allows one to publish files from a local computer via an existing channel. All properly configured subscribers to that channel will receive the files.

Open the Channels dialog via the Options, Channels menu item. Select the Server and the Channel that you wish to publish on, and click the **Publish File** button (the Up Arrow button). The Channels Publish dialog shown below will open. This is a standard Windows navigation dialog.

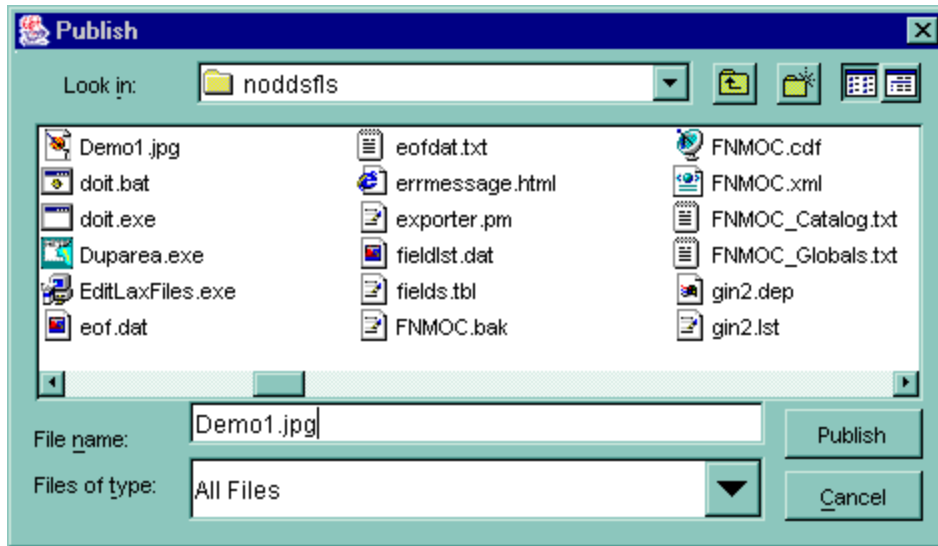


Figure 68. Channels Publish dialog.

Navigate to the file you wish to publish, select it to the filename text box and click the Publish button. Upon successfully uploading via the Channel, the following message will appear.

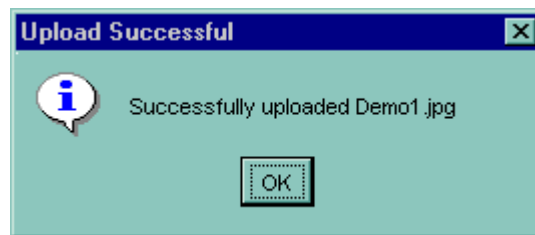


Figure 69. Channels Upload Successful dialog.

5.11 METCAST-to-METCAST Data Transfers (Sun Platform Only)

METCAST-to-METCAST data transfers are possible provided the unit on the receiving end of the transfer has a Sun workstation running both METCAST Server and METCAST Client (the HP and Windows NT versions do not have this capability at present). The receiving end METCAST Client processes the retrieved data files for ingest into a database, rather than for viewing by JMV (Joint METOC Viewer). This type of operation is termed a “Regional Center Configuration”. Please refer to the METCAST Client Installation Procedures document for detailed instructions about installing and configuring METCAST Client for this type of use.

NOTE: This procedure requires some knowledge of the METCAST server setup on the receiving system and of the structure of the *mailcap* file, and should not be attempted by anyone who is unfamiliar with the system.

The Sun installation package contains a special *mailcap* file called *mailcap_metcastfeed*. The first step in setting up a METCAST-to-METCAST transfer is to rename the existing *mailcap* file on the receiving end of the transfer to, for example, *mailcap.orig*, and then to rename the *mailcap_metcastfeed* file to *mailcap*. The new *mailcap* file must then be edited to change the hardcoded paths to the feed directories to point to the appropriate feed directories for the receiving platform's METCAST server. From this point on, the operation is the same as running METCAST Client for any other purpose.

This page intentionally left blank.

6 NOTES

6.1 Glossary of Abbreviations

COE	Common Operating Environment
DII	Defense Information Infrastructure
FNMOCC	Fleet Numerical Meteorology and Oceanography Center
GUI	Graphical User Interface
HTTP	Hyper-Text Transfer Protocol
ICAO	International Civil Aviation Organization
IP	Installation Procedures
JMV	Joint METOC Viewer
METOC	Meteorological and Oceanographic
MIME	Multipurpose Internet Mail Extensions
PC	Personal Computer
SPAWAR	Space and Naval Warfare Systems Command
SVD	Software Version Description
TAC	Tactical Advanced Computer
UM	User's Manual
URL	Uniform Resource Locator

6.2 Known Problems and Workarounds

The following known problems are currently being worked on:

1. A minor problem occurs in the Define Area dialog when Metcast Client is installed for the first time on a PC with no previous Metcast installations, or when it is installed on a different drive or directory than an existing version of Metcast Client. When Metcast Client is executed for the first time, the Special Area and Satellite area creation buttons are “grayed out” and non-functional in the Define Area dialog box. Close and then restart the Metcast Requestor window to activate the buttons. The North and South Lambert area projections are still under development, therefore the Lambert area buttons are inactive at this time.
2. **METCAST Client for Unix Servers:** The speed with which mouse inputs are made in the METCAST Client for Unix may cause a problem or hang up. In general, fast single or double clicking ahead of the Client program with either the left or right mouse buttons may cause X-windows to lock up. When X-windows locks up, the entire system will appear to have crashed. Users should not click ahead of the METCAST Client program, but wait for the Client to complete the requested action before initiating (clicking for) the next action.

If the system locks up due to fast mouse clicking, the system operator may remotely access the hung terminal and kill the hung processes. Recovery procedures are detailed in Appendix A.5.3.

3. For proper operation, METCAST Client, JMV and Quick Weather must share certain files and directories. Because of this, the “jmvwin” directory and several sub-directories and files will remain on your PC after uninstalling the JMV, METCAST and Quick Weather programs. To remove all traces of these programs, the following procedure is required: Uninstall JMV, METCAST Client and Quick Weather using the provided uninstall programs; located in the Start menu FNMOC-SPAWAR folder (when uninstalling JMV and METCAST, the uninstall shield will ask whether or not the user wishes to remove shared files. The correct response is “yes to all”). After uninstalling all three programs, shut down and restart the PC. The “jmvwin” folder will remain on the drive that was specified during the install process (usually the C: Drive). Navigate to the jmvwin folder, and delete it, and all of its contents.
4. Users should confirm that the PC running METCAST has sufficient disk space available to receive the requested data, prior to initiating METCAST to retrieve that data. At least 2 GB of free disc space is recommended. A variety of Windows errors (Dr. Watson errors) will result if the available hard disk space should fill up during a METCAST retrieval session. To estimate the size, in bytes, of the data requested for download, multiply the Total Data Points value (provided in the Product Selection dialog) by two.
5. Some users have reported data reception problems that appeared to be related to the Metcast Requestor. Subsequent investigation revealed incorrect calendar and clock

settings on the PC running JMV/Metcast. Timely data reception is dependant upon correct PC clock and calendar settings. The Metcast Time Zone (hours relative to GMT) must also be set correctly. The Metcast Time Zone is can be set by selecting Properties from the Metcast Client **Options** menu and simply entering the number of hours (maximum 12) your time zone is away from GMT. Next, select either the West or East radio button that corresponds to your location relative to the prime meridian.

6. Downloading observations (particularly Upper Air Reports) for a global area can produce problems with incomplete XML files being returned (giving rise to a "missing MIME boundary" error). The workaround is to request the problem observations for smaller, non-global areas.
7. A request for large numbers of grid files for an area may result in incomplete files being returned (giving rise to a "missing MIME boundary" error or sometimes a crash). The workaround is to duplicate the area with different names, and only request a subset of the required grid set for each of the new areas.
8. When two sessions in the Retriever Monitor share the same area name, server, and data domain, the Past Sessions log can be confused and will only show the past sessions data for the earliest completed session. A workaround is to purge the Past Sessions log before each new write, so that only the latest past session data are displayed. We are still working on a better fix.
9. The installation software may occasionally not recognize proxy settings when they are, in fact, present. Therefore the settings in the metcast.con and QuickWeather.ini files may not be updated properly. When this happens, users will need to enter the proxy settings manually.
10. Some Windows users have reported problems installing a new version of METCAST Client after having had an older version running. The following error message was generated when starting Metcast Client in some cases:

"The retriever monitor had a problem starting because either a previous version of METCAST is already running, or your TCP/IP settings are incorrect."

We believe that this problem may result from one of two causes: either the Retriever Monitor didn't shut down correctly or a Metcast Retriever Service is being run as a Windows NT Service. To check for the first instance above, ensure that you have closed all Metcast Clients, then use the Task Manager to see if any Retriever Services are still running. Look for **omniRetriever** in the Applications window and kill it, if present.

If problems persist, then the Metcast Retriever Service is likely being run as an NT service. The solution is to remove the Metcast Retriever Service from the Windows Services List. To do this, open a DOS Command Prompt window and set the directory to jmvwin\noddsfls and enter the command: **ServiceManager -r**. The message "*Metcast Retriever Service remove*" will confirm that the retriever service has been removed.

If you've already tried to uninstall METCAST Client when you run into this problem, enter the ServiceManager -r command, then reboot the machine and reinstall METCAST Client. This should clear up the problem.

7 DOCUMENTATION IMPROVEMENT AND FEEDBACK

Comments and other feedback on this document should be directed to the DII COE Hotline:

Phone: 703-735-8681

Fax: 703-735-3080

Email: HotlineC@ncr.disa.mil

This page intentionally left blank.

APPENDIX A SOLARIS NOTES

A.1 Summary

The Solaris version of the METCAST Client software is functionally identical to the Windows NT version that is detailed in this manual. All of the documented features, functions, and caveats also apply to the Solaris version of the software, with the exception of the capabilities detailed in the four sections listed below. These sections pertain only to the Windows version of the software.

- Section 4.4 Running the Retriever Service as a Windows NT Service
- Section 4.5 Creating a Remote Link
- Section 5.3.1 Creating an Area: The 'Remote Link' function does not apply.
- Section 5.6.3 Selecting a Remote List

The screen shots (sample images) used throughout this manual were captured on a PC running Windows NT, therefore, the dialog boxes in the Solaris version will appear slightly different. This difference is purely cosmetic, and is primarily due to the use of a different font type. The Start-Up procedures for the Solaris version are different and are detailed below.

IMPORTANT NOTE: The speed with which mouse inputs are made in the METCAST Client for Unix may cause problems and hang-ups. In general, fast single or double clicking ahead of the Client program with either the left or right mouse buttons may cause X-windows to hang up. Users should not click ahead of the METCAST Client program, but wait for the Client to complete the requested action before initiating (clicking for) the next action.

If fast clicking has caused an X-window to lock up, refer to Appendix A.5.3 for terminal recovery instructions.

A.2 Installation notes

As with the Windows NT version of the METCAST Client software, the installation procedure for the Solaris version of the METCAST Client software is contained in the *METCAST Client Segment Installation Procedures* (IP). This document, titled *fnmoc_metcast_ip_15Series*, is provided in the **Docs** folder on the installation CD.

The installation program for the Solaris version of METCAST Client and JMV will search the installation directory (selected by the user) and delete existing versions of METCAST Client and JMV. The User may wish to save various files and directories before performing the new installation. A list of files and directories that the user may wish to preserve, as well as the rationale for saving them is provided within the Installation Procedures document.

A.3 Starting METCAST Client

METCAST Client for Solaris is started via the following method:

1. Access the installation directory by typing: `cd jmvwin`.
2. Type `./metcast` to start METCAST Client and the Retriever Service in Normal Mode, which is designed for use with JMV.

The first time METCAST Client is started the dialog box shown in Figure 70 below will appear, prompting the user to input a username and password for the server. Subsequent executions of METCAST Client will not require this step.

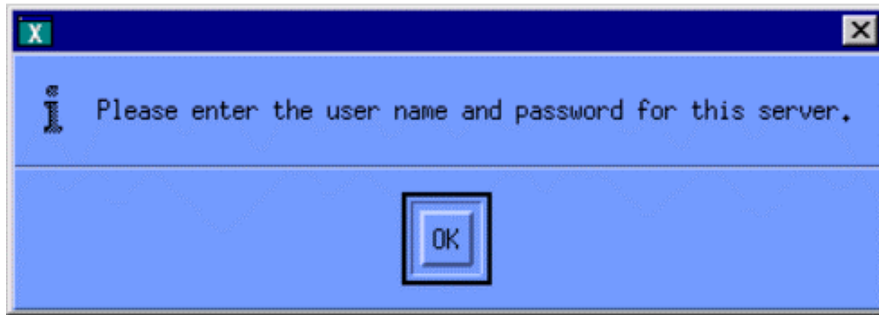


Figure 70 User name and Password dialog.

Click on the **OK** button and the Server Configuration dialog box shown in Figure 71 below will open.

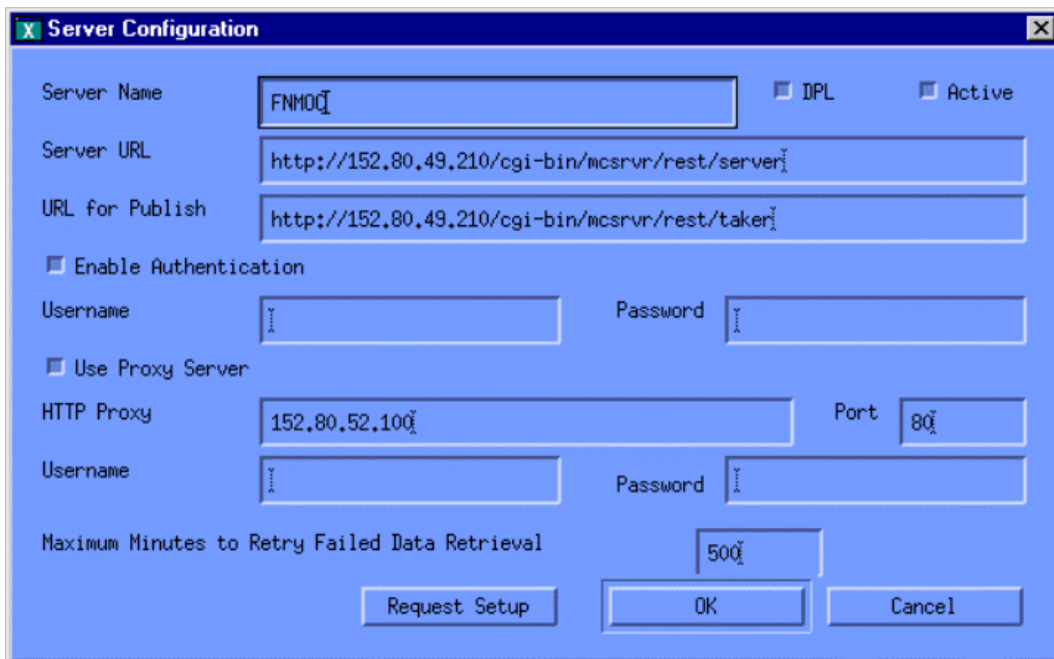


Figure 71 Server configuration dialog.

Server configuration is performed in the same manner for both Windows NT and Solaris versions of the METCAST Client software. Please refer to section 4.1 - Software Setup, for

instructions on setting up your server configuration. When server inputs are complete, click on the **OK** button.

3. After completing the steps above, two windows will appear. The first is the METCAST Data Browser window shown in Figure 72 below. This window appears briefly while the METCAST Client software initializes.



Figure 72 METCAST Data Browser window

After the software initializes, the METCAST Client Data Browser window will disappear and the METCAST Requestor Window will open, as shown in Figure 73 below.

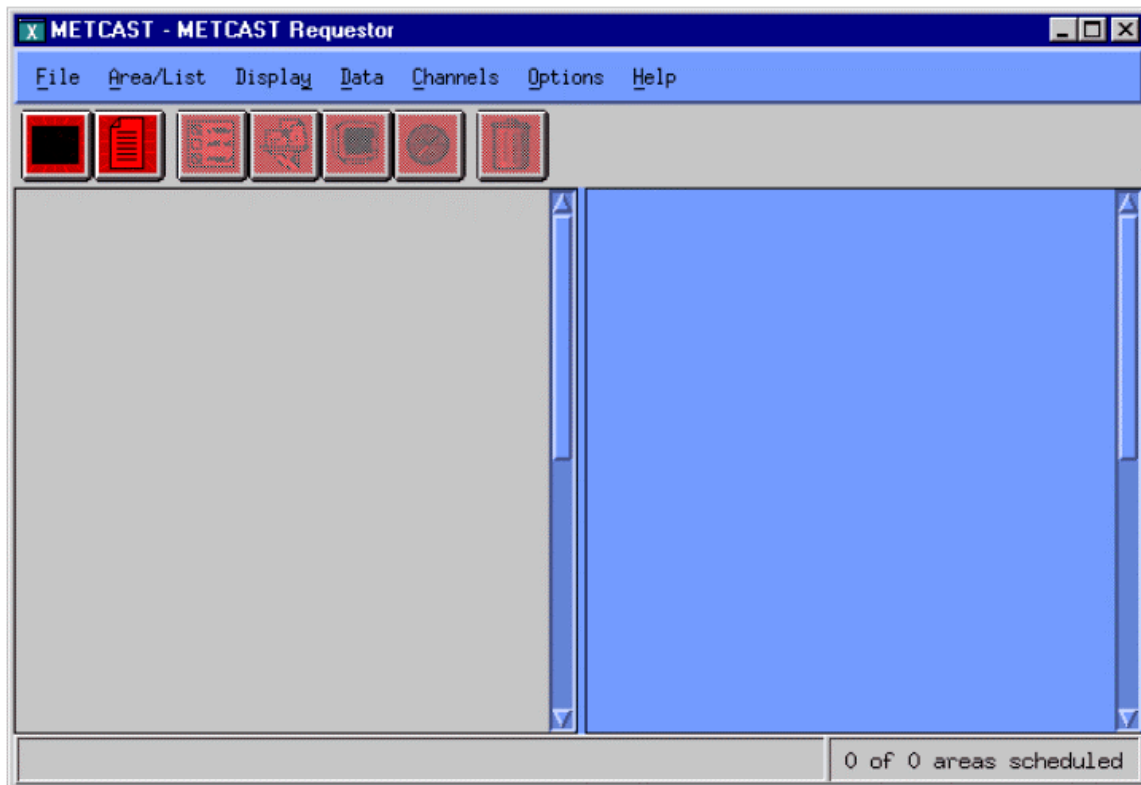


Figure 73 METCAST Requestor Window.

The features of the Solaris version of the METCAST Requestor window are identical to the Windows NT version. Section 4.1.2.1 explains the METCAST Requestor window functions. Section 4.1.2.4 details the METCAST Requestor Toolbar functions and Section 5.1- The Basics, provides instructions to help the first time user set up data requests, then retrieve and view the selected data.

The second window shown below in Figure 74, is the **Retriever Service** window.



Figure 74 Retriever Service Window.

Click on the first line - **Show Retriever Monitor** to open the Retriever Monitor window, shown in Figure 75 below. The Retriever Monitor is used to view the retrieval status of products being downloaded. Refer to Section 5.8 for complete instructions on the use of this monitor.

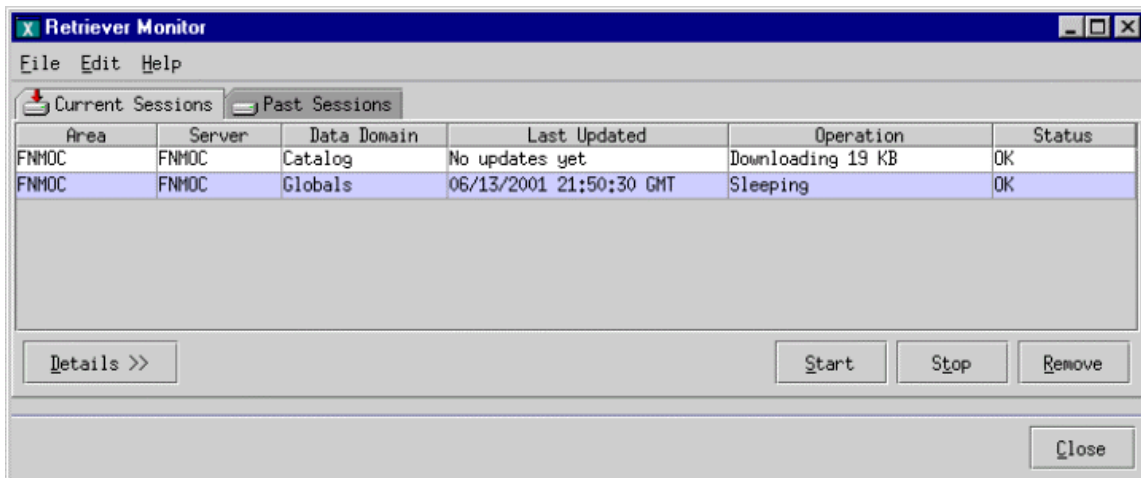


Figure 75 Retriever Monitor Window

Click on the second line of the Retriever Service dialog - **Kill Retriever Service**, to stop the METCAST Retriever Service. This will stop all data requests and retrievals. The dialog box shown below in Figure 76 will appear, prompting the user to confirm whether he wishes to proceed.

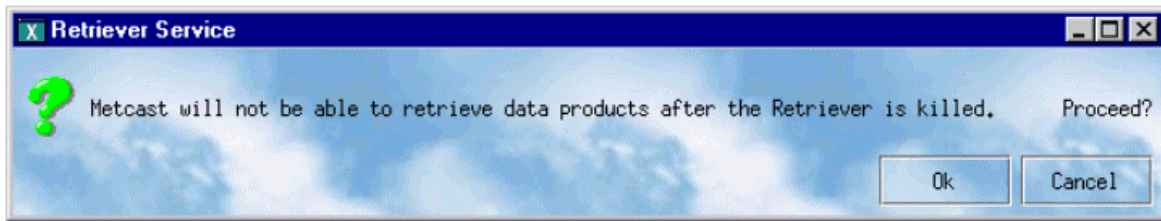


Figure 76 Kill Retriever Service Confirmation dialog

Click on the **OK** button to kill the retriever service. Click on the **Cancel** button to close the dialog box without killing the retriever service.

A.4 Miscellaneous

1. METCAST-to-METCAST transfers are possible on the Sun Solaris platform, provided that the unit on the receiving end of the transfer is running both METCAST Server and METCAST Client. Refer to section 5.11 for additional information.
2. The dialog box shown in Figure 77 below will appear when Areas are created or when Products are displayed. (i.e. when the Choose Area Type dialog box or the Display Products menu button are used). This non-functional dialog is an artifact of the software technology that allows the same software to function on both the Windows and Solaris operating systems. This dialog cannot be closed or minimized, but can be repositioned on the users screen. This dialog box will be hidden behind an active window.



Figure 77 Nonfunctional dialog

A.5 REGIONAL CENTER NOTES

A.5.1 Regional Center Operational Scripts

The six scripts listed below are essential for effective operation of the METCAST Client software in support of a METCAST Server - Regional Center type of configuration. The scripts are located in the directory `/h/jmvwin`.

1. **S99mc_service**
2. **MCLoadService**
3. **MCInit**
4. **MCMonitor**

5. MCClient**6. MCKillService**

1. **S99mc_service** is a system startup script that should be copied to /etc/rc3.d. This script is executed on system startup. It is designed to automatically start the METCAST Retriever Service by executing the **MCLoadService** and the **MCInit** scripts whenever the system is booted. In general terms, this script will start retrieval sessions for all scheduled areas and lists.
2. **MCLoadService** is used to load the METCAST Retriever Service in “DAEMON” mode. This script only starts the process; it does not actually initialize the scheduled sessions/areas. The script starts a java process that loads the omnicast.jar program.
3. **MCInit** is used to actually initialize the scheduled sessions/areas. It starts a non gui version of the METCAST Requestor that signals the METCAST Retriever Service to start. The program then terminates. This function is specifically designed to run during system startup, but also works at run time. Once the script MCInit is executed the Retriever Service will start downloading data. There is no need to start the METCAST Retriever Monitor or METCAST Requestor.
4. **MCMonitor** is used to display the METCAST Retriever Monitor, which is a gui window that allows the user to monitor the sessions/areas being processed by the METCAST Retriever Service. It is a very useful utility type program to check the status of scheduled sessions/areas. The Retriever Monitor is a java process that loads the omnicast.jar program with command line arguments that specify the program to function as a Monitor.
5. **MCClient** is used to start the METCAST Requestor program. This program is used to create, configure and manage areas (and lists) of interest as well as the data requests for those areas/lists.
6. **MCKillService** is used to terminate the METCAST Retriever Service. This script will also close the METCAST Retriever Monitor if it is open. The METCAST Requestor should be terminated before terminating the Retriever Service with this script.

Normal Operations: The scripts **MCMonitor** and **MCClient** (Requestor) are the basic tools required to manage the system on a day-to-day basis. The Monitor and Requestor may be started and stopped as necessary. However, it is important to note that every time the Requestor is started, the Retriever Service will restart all scheduled sessions/areas.

A.5.2 Resolving Data Download Problems

Data download problems that appear to be caused by the local system can often be resolved by stopping, and then restarting the METCAST Retriever Service. First terminate the METCAST Requestor if it is running by selecting the **Quit** option from the pull down **File** menu, then execute the script **MCKillService** to stop the Retrieval Service.

Ensure that all Retrieval processes have been terminated, by typing the `ps` command listed below, and then verify that none of the listed processes reference: `...h/jmvwin/noddsfls....`

```
hostname:/h/jmvwin>ps -ef | grep ingest
```

To restart the system, execute the **MCLoadService** script, followed by the **MCInit** script. To ensure an orderly startup, these two scripts should always be started in this order.

Next, use the `ps` command as follows:

```
hostname:/h/jmvwin>ps -ef | grep java
```

There should be one process listed with `-mx19...` after `java`. If the `ps` command is entered several times one should see an increase in the CPU time. Once the Retriever Service is started the user can use **MCMonitor** and **MCClient** to monitor and manage the scheduled sessions, areas and lists.

A.5.3 Recovering a Locked Up Terminal

As noted in Appendix A.1- Summary, the speed with which mouse inputs are made in the METCAST Client for Unix may cause problems and hang-ups. Specifically, this may cause X-windows to lock up. If this problem occurs, the system operator may remotely access the problem terminal and kill the hung processes. The following instructions detail this process.

1. Switch to the other server by holding down the "Ctrl" key and simultaneously pressing the "~" key. Press "F1" or "F2" depending on which Server the double click took place, then press the "Esc" key.
2. Open a terminal window and connect (telnet) to the other Server by typing:
%telnet server name
3. Login as the user `ingest` and locate the hung processes, using the command below:
%ps -ef | grep jre
4. Write down the Process ID's (PID) of the hung processes. The PID is the first number from the left hand side of the processes list. There should only be two processes with the following path: `/h/jmvwin/noddsfls/./jre/...`
5. Terminate those processes by typing: **%kill "PID" "PID"**
6. Find the remaining hung process by typing the command:
%ps -ef | grep "\./mc"
7. Again, write down the PID of the hung processes, and terminate these processes with the following command: **%kill "PID"**
8. Exit from the telnet session by typing: **%exit**

9. Return to original machine by simultaneously pressing the Ctrl key and the “~” key, followed by pressing either the F1 or F2 key, and finally pressing the Esc key.
10. Move to the jmvwin directory by typing: **cd /h/jmvwin**. Then launch the METCAST Retriever Service in DAEMON mode, by typing the script **S99mc_service** with the command line argument “**start**” This script will execute both the **MCLoadService** and **MCInit** scripts.
11. If necessary, restart the METCAST Requestor and METCAST Retriever Monitor by typing: **MCClient** and **MCMonitor**.

APPENDIX B MAILCAP FILE EDITOR

Metcast Client includes an application for editing the Metcast mailcap file on systems running MS Windows. Only advanced users with a good understanding of how the mailcap file works should modify this file. Incorrect configuration of the mailcap may cause Metcast Client to stop functioning.

B.1 What is the mailcap file?

All information retrieved via Metcast Client is packaged in XML format, which includes a MIME (Multipurpose Internet Mail Extension) type tag. The MIME type identifies the type of data that is contained within the XML package. The mailcap file contains a list of mime types and a set of instructions (operations) created specifically for each mime type. When data is received, Metcast processes the data according to its MIME type by executing the previously defined instructions. The instructions may be as simple as to move a file to a different directory and append a time stamp to the file name, or may launch other applications to perform complex processing of the data before moving it to a destination directory. The **mailcap** file is located within the jmvwin/noddsfls directory.

B.2 Editing the mailcap file

Close Metcast Requestor and ensure that the Retriever service has stopped. The mailcap editor is a java application and may be launched via the **mailcapeditor.bat** file located in the jmvwin/noddsfls directory. The mailcap file may also be edited with other text editing applications such as notepad.

Double click on **mailcapeditor.bat** file to open the dialog shown below. The dialog will automatically display the current mailcap file located in the jmvwin/noddsfls directory. A DOS window will open prior to the appearance of the mailcap editor dialog, and will remain open while the mailcap Editor is open.

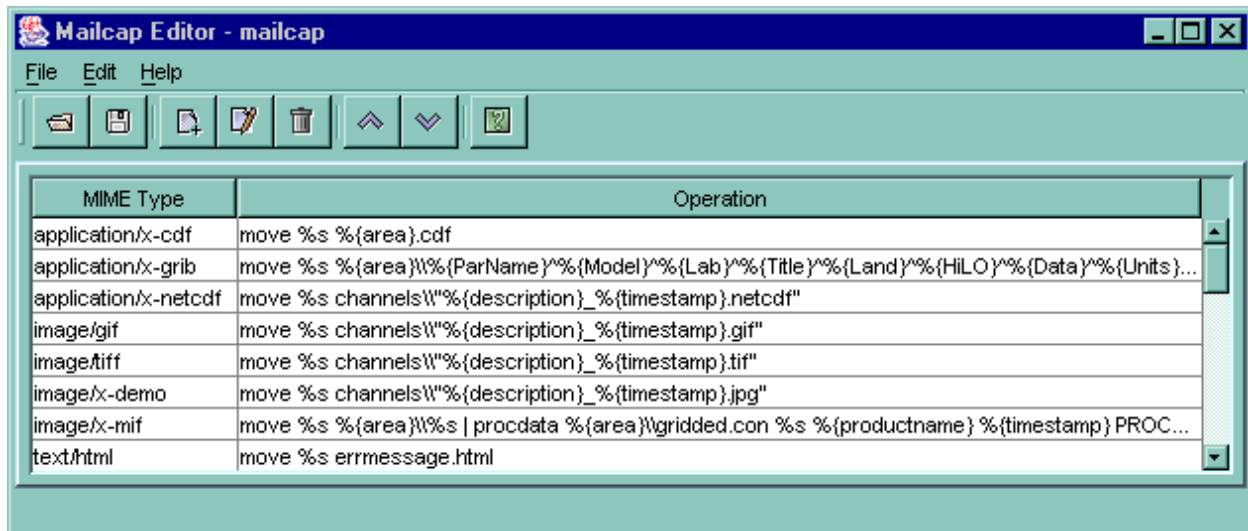


Figure 78. Mailcap Editor dialog.

The **MIME Type** header in the text window lists the mime types, while the **Operation** header lists the operations, or processes, that will be executed for the corresponding MIME type entry.

B.2.1 Modifying a mailcap Entry

To modify an entry, double click on either the MIME Type or Operation line of the desired entry. The Edit Mailcap Entry dialog shown below will appear.

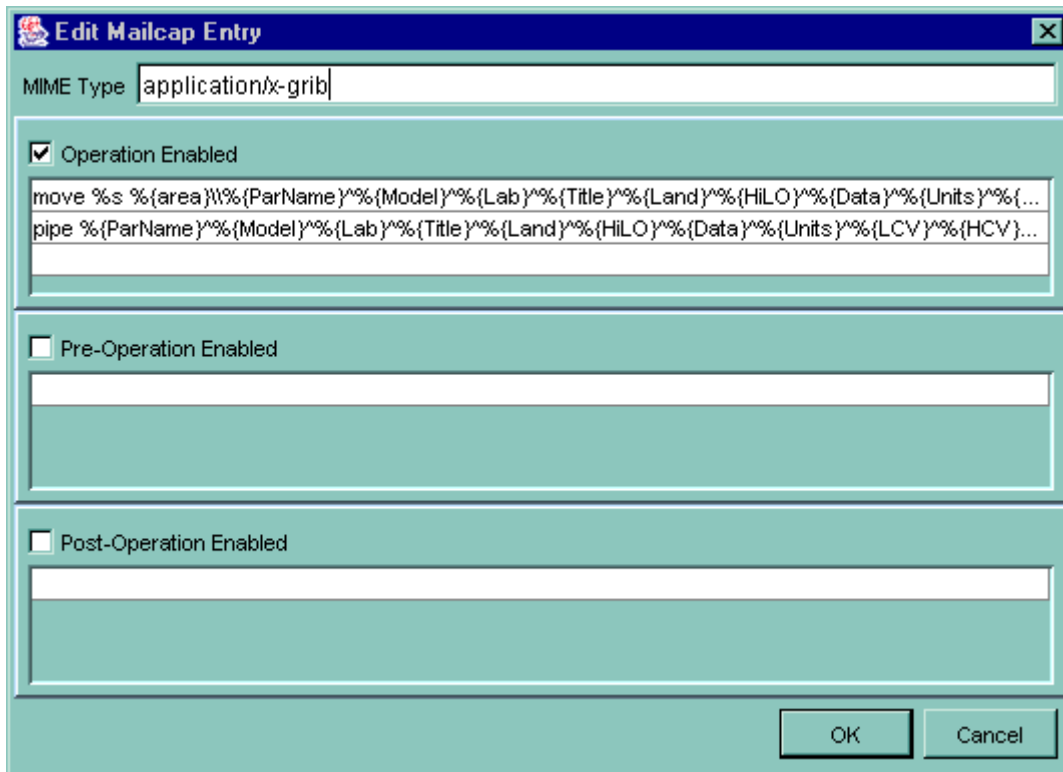


Figure 79. Edit Mailcap Entry dialog.

The MIME type and operations will appear in the text boxes as shown above. The cursor will be activated within the MIME Type text box. Enter changes as desired.

To edit the Operations that will be executed for the displayed MIME type, double click within the desired line of the Operations text box to activate edit mode. Enter the desired changes, then press the **Enter** key to close edit mode. Click the OK button to save inputs and close the dialog box. Note that if the OK button is pressed before pressing the Enter key, the edits will not be saved.

Each line must be edited separately. Long strings of operations may be too long to display completely on one line. Use the left and right arrow keys, and the Home, End buttons to view an entire line.

The **Pre-Operations Enabled** checkbox and textbox may be used to enter processes that will run prior to the main operations. Double click on a line in the textbox to activate the editor. Add the desired operations, press the Enter key, and then click the OK button to save the changes and close the editor. If the OK button is pressed before hitting the enter key, the additions will not be saved.

The **Post-Operations Enabled** checkbox and textbox may be used to enter processes that will run after the main operations have completed. Double click on a line in the textbox to activate the editor. Add the desired operations, press the Enter key, and then click the OK button to save

the changes and close the editor. If the OK button is pressed before hitting the enter key, the additions will not be saved.

B.2.2 Inserting a new mailcap entry

Right mouse click on the mailcap entry that you wish to add an entry **after**, then select the **Insert** option. The Insert option may also be selected via the Insert Entry button in the Mailcap Editor Dialog and via the pull down Edit menu. The same Edit Mailcap Entry dialog shown in figure 77 above will appear. Enter the desired MIME Type and Operations as described above, ensure that the appropriate check boxes are checked, and then click the OK button to save your inputs and close the dialog. When inputting the operations data; be sure to press the Enter key before clicking the OK button or your operations inputs will be lost.

B.2.3 Additional Mailcap Editor Dialog features

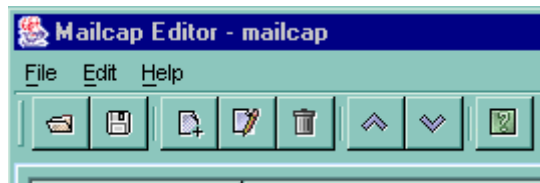


Figure 80. Mailcap Editor Menu buttons

The Mailcap Editor Dialog has three pull down menu items. These are listed below, with the options available for each.

- **File:** The available options are **New** to create a new file, **Open** – to open an existing file, **Save/Save As**, to save a file, and **Exit** to Close the Mailcap Editor dialog.
- **Edit:** The available options are **Insert**, to insert a new mailcap entry, **Modify** – to modify an existing entry, **Delete** – to delete an entry, **Up/Down** – to changes the list order of the selected mailcap entry.
- **Help:** The single option, **About**, displays the Mailcap Editor software version number.

The Menu buttons provide the same functions as described above to Open, Save, Insert an entry, Modify an entry, Delete an entry, Move an entry Up the list, Move an entry Down the list, and display a help file. The help button does not function for this version of Mailcap Editor, but will be enabled in a future version.

APPENDIX C JOINT METOC VIEWER (JMV) IMAGE FILE FORMAT

C.1 Description

This appendix describes a format for imagery ingested by JMV, termed JMV Image Format, or JIF. JIF is a variant of Tag Image File Format (TIFF), with some added information written to TIFF "Image File Directory", which quantifies attributes of the image. It is fully compliant with the TIFF 6.0 specifications (Aldus, 1992), so JIF images can be previewed with most commonly available image viewers.

This format does not contain requirements for transmission protocol.

C.2 Mandatory and Optional Information

JIF is compliant with METOC TIFF format. Therefore, image navigation information must be supplied through TIFF private tags. See **Section C.4** for private tag definitions.

- Data is single byte per pixel (8 bits).
- Graphical overlays are forbidden.
- The **Image_Description** tag includes the **KEYWORD=value pairs** listed in the table below.

The ImageDescription is a standard TIFF tag whose value is an ASCII string. JMV images should format the ImageDescription as follows:

KEYWORD1="string1"; KEYWORD2="string2"; etc.

In the example above, **KEYWORD** is an alphanumeric string conforming to the ANSI C standard for an "identifier" (i.e. start with letter or underscore, followed by letters or digits, any length). **STRING** is a set of characters enclosed in double quotes, as defined by ANSI C. E.g. "This is a string". Comma characters within the string are used as field delimiters for multi-field KEYWORDS, unless preceded by the backslash character (\). Double-quote characters may also be interpreted as string characters if preceded by a backslash.

KEYWORD="value";	Definition
DATA_START_TIME="dtg1";	<p>dtg1 is a string representing the earliest pixel data time in the image. dtg1 format follows the recommendation of RFC 1123 for HTTP 1.1 clients.</p> <p>E.g. "Sun, 06 Nov 1994 08:49:37 GMT"</p> <p>This string can be parsed according to a format "%a, %d %b %Y %T GMT" using a strptime function, which is a POSIX function.</p>
DATA_END_TIME="dtg2";	<p>dtg2 is a string representing the latest pixel data time in the image.</p>
DATA_NAME="dname";	<p>dname is a string of any length which accurately describes the data values.</p> <p>E.g. "windspeed" or "AVHRR_ch5"</p>
DATA_PLATFORM="pname";	<p>pname is a string of any length which accurately describes the sensor platform(s).</p> <p>E.g. "NOAA12" or "F11,12,13"</p>

OPTIONAL DATA SCALING INFORMATION: To take advantage of the JMV color bar and mouse-driven displays, the following information must be included (highly recommended). See **Footnote 1** for details and an example.

DATA_UNITS="units";	<p>units is a string of any length which states the data units, if any.</p> <p>E.g. "degC", "none", "counts", "nondimensional", or "%"</p>
---------------------	--

DATA_RANGE="M1,N1,a1,b1,rname1,
L1a,label1a,L1b,label1b,..";

a1,b1 are data offset, slope for pixel values M1 through N1 for colorbar display. a1,b1 are interpreted as floating point values according to ANSI-C convention. rname1 is the name of this data range, following ANSI-C convention for identifiers.

Optionally, label1a is a string for labeling the colorbar at pixel value L1a, which is in the range M1 through N1. label1b is another label at L1b, also in the range M1 through N1.

DATA_RANGE="M2,N2,a2,b2,rname2,
L2a,label2a,L2b,label2b,..";

Data offset, slope, name and optional labels for another pixel range any number of DATA_RANGE descriptions

ADDITIONAL OPTIONAL INFORMATION: Used to further define the image.

TEXT_BLOCK="text1";

text1 is a string that will be displayed by the Joint Metoc Viewer.

E.g., Horizontally Polarized"

TEXT_BLOCK="text2";

Another line of text to be placed under the first. Any number of TEXT_BLOCK annotations are allowed

OPTIONAL TEXT_BLOCK CONVENTIONS:

TEXT_BLOCK="LANDMASK_ON";

JMV client is authorized to mask over land areas. Often used when data is only valid over water.

TEXT_BLOCK="LANDMASK_OFF";

JMV client is not authorized to mask over land areas.

PLAIN_LANGUAGE_NAME="text1_text2_text3"; where text1, text2, text3 are non-null ANSI C strings, excluding the underscore character, _, which is used as a delimiter. All three text strings are required.

See **Note 2** for discussion.

C.3 Notes

Note 1:

If these keywords are present, JMV will add an optionally annotated color bar over the range of pixel values defined by the DATA_RANGE keywords. Labels will be centered next to its associated pixel value on the color bar.

JMV will also interactively display the data value of the pixel below the mouse-driven cursor. Any number of DATA_RANGE keywords can be supplied. DATA_UNITS will be displayed next to the DATA_NAME.

Consider an example where we have an image of wind speed, which scales byte values 2-254 from 0-50 knots.

Value 0 represents near-coast data for which wind speeds cannot be resolved, 1 is bad data (e.g. sensor failure), and 255 is rain. We want to have unique, discrete values shown at the mouse-driven display for the bad data and rain, and the wind speed in kts shown for other locations. We want to label the color bar in intervals of 10 kts, identify the color for rain, and identify the bad data values as "missing" on the colorbar.

A suitable series of keywords=value pairs in the ImageDescription would be:

```
DATA_UNITS="kts"
DATA_RANGE="1,1,-2.,0.,baddata,1,Missing";
DATA_RANGE="2,254,0.,.197,windspeed,52,10,104,20,154,30,204,40";
DATA_RANGE="255,255,-3.,0.,rain,255,Rain";
```

Note that the color corresponding to near-coast data will not be displayed in the colorbar, and the mouse-driven display will go blank when the cursor is placed over near-coast data. I.e., if a DATA_RANGE is omitted, it is not interpreted as data.

Future version of JMV will allow users to selectively turn on or turn off data ranges as identified by the dname string (field 5). E.g., show only "rain" data.

The labeling scheme is very basic, and may require some testing and compromise to avoid over plotting labels. E.g., would be impossible to identify both 50 kts AND Rain through this

labeling. It is anticipated that JMV clients will have font control to handle screen resolution variations.

Note 2:

Communications systems often distribute images with long, cryptic names. While these names are useful to track and catalog files, they are often ambiguous or too complex for the end user. The PLAIN_LANGUAGE_NAME is an optional, recommended syntax used to assign "user friendly" names to images for presentation to the end user. This syntax is compatible with, but not limited to use by the JMV client.

The content of the strings is not mandated. However, it is recommended that text1 should logically identify the image earth coordinates, text2 should identify the image data values, and text3 identify the data provider's organization. Additionally, it is recommended the entire Plain Language Name should not exceed 32 characters. Examples follow,

E.Pac_lowclouds_NRLMRY

Med.Sea_rainrate_FNMOC

W.Atl_GOES.ir3_NLMOC

C.4 METOC TIFF (MIFF) Private Tags

All tags listed should be included, even if they are redundant or not applicable so that interpreters do not fail. Unused values should be set to 0.

All latitudes and longitudes are multiplied by 100000 and rounded. lat: 0 - 9,000,000 (North is positive, South is negative), lon: 0 - 18,000,000 (East is positive, West is negative) (e.g., -6000000/100000 = 60.000 W)

There is some disagreement between sources (NRL, LOCKHEED, JMV) about the data "type" for some tags, but it shouldn't matter, since the tiff interpreter should read the type, and all versions have sufficient precision.

Type long values below may be written as TIFF type 4 (long) or type 9 (slong).

tag	Type	Definition
33000	Short	Projection 1 = polar stereographic 2 = lambert conformal 4 = mercator 8 = normal
33001	Long	Standard lat 1
33002	Long	Standard lat 2

33003	Short	Hemisphere 1 = north 2 = south
33004	Long	Lat upper left
33005	Long	Lon "
33006	Long	lat lower left
33007	Long	lon "
33008	Long	lat upper right
33009	long	lon "
33010	Long	lat lower right
33011	Long	lon "
33012	Long	lat center bottom edge
33013	Long	lon "
33014	Long	lat center top edge
33015	Long	lon "